

# AMERICAN AGRICULTURIST.



*Agriculture is the most healthy, the most useful, and the most noble employment of man.*—WASHINGTON.

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**JOSIAH TATUM, 50 NORTH FOURTH ST., PHILA.,**

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## BENEFIT OF GUANO.

I HAVE gathered a great amount of information in my travels, upon this subject, some of which will be useful to your readers.

I presume no part of the United States can show a more marked benefit from the use of this best and cheapest of all fertilisers in the world, than the northern neck of Virginia; as in no part, with which I am acquainted, has it been so extensively used, and likely to be continued to be used, upon the next wheat crop, as here.

Mr. Willoughby Newton is entitled to the credit of having first introduced it into that section, and he now says that he looks upon it as an interposition of Providence, to save the country from total ruin, as most of the land had become so utterly exhausted as not to be worth cultivating, and nearly all the ridge or "forest land," as it is termed, had been abandoned as worthless, and suffered to grow up to old-field pines, which in time were cut down and burnt, and the land planted, and after bringing two or three miserable crops, suffered to grow up again. The soil is generally a sandy loam, based on a reddish-yellow clay, and in many places by shallow plowing and bad management, very much washed and its native fertility wasted.

Mr. Newton's first experiment was upon such land, so "deadly poor" that it had long been considered useless to try to raise wheat, rye, or oats upon it, and it only afforded a very scanty crop of "poverty" or "hen grass." In 1846, he purchased a ton of Ichabo guano, about equal to half a ton of Peruvian, and put it upon eight acres, plowed in, upon which he sowed eight bushels of wheat, amid the jeers of some, and doubts of all his neighbors, that he never would see his seed returned to him in the crop. Even his negroes thought "massa hab done gone crazy sure, to tink he raise wheat on dat land, caze he put few pinch of snuff on him." The result, however, was 88 bushels, and a good stand of clover.

In 1847, Mr. N. purchased \$100 worth of Patagonian guano, and used it upon equally poor land, and obtained 330 bushels good wheat, when he certainly could not possibly have made 100 bushels without guano, by the best manuring he would have been able to give it. In 1848, he used \$200 worth of Patagonian and Chilian, at \$40 per ton for one, and \$30 for the other, and made 540 bushels of such fine wheat that it sold readily, for seed, at \$1.25 per bushel. As these experiments were so very satisfactory upon the light lands, he wished to try what benefit guano would be to soil of a different character. He therefore selected ten acres upon one of his Potomac farms, of a cold white clay, and applied one ton of Peruvian guano, which cost \$50. His overseer declared "that stuff" never would make wheat and he would beat it upon the next ten acres, which to do, he dressed with lime, and plowed finely, and put in the wheat as well as he knew how. Finding in the spring, that the guanoed wheat was getting ahead, he gave his ten acres a good top-dressing

of manure. The result was 55 bushels for the limed and manured lot, while the guanoed lot gave 135 bushels of a much better quality, which also sold at \$1.25 per bushel, for seed. Here was a clear gain of \$63.75 upon an outlay of \$50, in one crop, ready money, besides the advantage to the land of getting a good growth of clover. In 1849, he used ten tons of Peruvian guano at \$47, and ten tons of Patagonian, at \$30, upon 260 acres of wheat, at the rate of 75 to 250 lbs. guano to the acre, and the result now, (May 3d, 1850,) is so promising, that he has bought 30 tons of Peruvian, intending hereafter, to use no other kind, as the wheat now growing side by side, upon which the two kinds were applied, at equal cost, shows very largely in favor of the Peruvian.

Upon one acre of sandy loam, in 1847, Mr. N. used one barrel of African guano, cost \$4, and sowed one bushel Zimmerman wheat, and reaped 17. He also used a barrel of "fertiliser," last fall, at the rate of \$12 an acre, along side of guano, at \$4 an acre. The present appearance of the crop is in exact inverse proportion.

It is the concurrent opinion of Mr. N., and others who have used it most, that an application of 200 pounds per acre, plowed in deep, [How "deep?" It will not do so well to plow guano in what we call "deep," in a northern climate.—Eds.] and wheat sowed late, say last of October or first of November, is the most economical application, and that it will give an average increase of twelve bushels to the acre, for one of seed, upon poor land, and give a good stand of clover, that when turned in will give as good a crop as the first.

The land upon which the above-named crops were made cost \$4 an acre. Five miles from navigation, such land can be bought for less money.

Wm. D. Nelson, of Westmoreland county, Virginia, a near neighbor of Mr. Newton, bought the land upon which he now lives, two years ago, at \$1,600 for 400 acres. Three fourths of it was grown up in pines, and the balance, not paying interest of money in rent. The place was notoriously poor. It has a very different aspect now. Fine fields of wheat, knee high this backward spring, on the 1st of May, and most luxuriant clover, plainly tell what has been the renovating agent under a judicious management, to effect this great change. He used 200 pounds of Peruvian guano, and made 12 bushels wheat to one sowed, to the acre; and 200 lbs. Patagonian, and made 10 bushels to one. Upon eleven acres used 2,200 lbs., and 11 bushels seed, and made 150 bushels of wheat. Upon 36 acres and 36 bushels seed, on the same kind of land that had been manured well in previous corn crop, but not guanoed, made 152 bushels. The contrast now, between wheat that was guanoed and that without, is equal to the difference between the green grass upon the wayside, and the bare beaten track. He plows in all his guano. Has bought ten tons Peruvian for 1850.

Dr. F. Fairfax, of King-George county, Virginia, commenced the use of guano, in 1847,



next year after Mr. Newton, on the northern neck, upon a piece of land so deadly poor that it would not produce any kind of grain enough to pay for planting; soil, clayey loam, hill land. His first experiment was with 400 lbs. to the acre, of African guano, that proved one third water, upon 27 acres, sowed with three bushels to an acre, and made 12½ bushels, and upon another field from 8 to 18 bushels to the acre, and guano fully paid for in the improvement of the land by clover, which he sows with wheat, in September. The clover grows luxuriantly where none would grow without guano, and his wheat now, (May 1,) is knee high, and will ripen by 15th June, and bids fair to make 1,000 bushels where 150 could not have been made without guano, or 25 bushels to the acre. On some kinds of land on next farm, the wheat is barely perceptible at a little distance. Upon another farm where the land is richer, the contrast is not so great, but the doctor thinks will be equally profitable, and that it always will be found profitable upon land that would be benefitted by manure. He has bought 15 tons Peruvian guano for the next crop.

Mr. W. Roy Mason put 300 lbs. of African guano at a cost of \$4.50 upon what he says was the poorest acre of land in King-George county, Virginia, and I can bring a host of witnesses to prove that that is poor enough, and got 12 bushels good wheat, and a stand of clover worth more than the guano cost. He has made other experiments so satisfactory that he has bought six tons of Peruvian for future ones.

Mr. C. Turner, of King-George county, tried five experiments with guano.

1st. Plowed in 250 lbs. 7 inches deep on corn land, and harrowed in wheat, and sowed one bushel plaster to acre on surface of part.

2d. After the land was plowed, mixed guano, wheat, and plaster, and sowed and harrowed.

3d. Land plowed, and wheat, guano, and plaster sowed and plowed in 2 or 3 inches deep.

4th. Guano and plaster plowed in five inches and wheat harrowed in.

The quantity and quality all equal. The present appearance, (April 26th,) is decidedly in favor of the first part of first experiment.

From all that I can learn, I am convinced that the best application that can be made is 200 lbs. Peruvian guano to the acre, plowed in deep, [How "deep," one inch, five, ten or twenty?—Eds.,] and that it is the most beneficial upon sandy loam, and pays the greatest profit upon lands so worn out as to be absolutely worthless for cultivation.

Col. Robert W. Carter, of Sabine Hall, Richmond county, Virginia, a gentleman noted as one of the most improving agriculturist upon the northern neck, after thoroughly testing the various manures in various ways, has become so thoroughly convinced of its value, and the bad economy of ever sowing wheat without using it, has ordered 40 tons of Peruvian guano for his fall seeding of 1850. He plows it in deep.

No part of the United States is using guano to the extent it will be used next fall, in this part of Virginia. I have notes of a great many other

experiments, and shall continue to take others for publication for the encouragement of any who may be timid about buying this most wonderful and most profitable fertiliser. R.

#### NEW WAY OF RAISING FIGS.

Mr. Wm. H. Roy, one of the most intelligent farmers of Mathews county, Virginia, has adopted the plan of separating the sow from the pigs and suckling them at stated times just as is common with calves. When the pigs are one day old, it is very easy to turn the sow out and leave the pigs in the pen. The sow is turned in at night and out in the morning, and also at noon, during the infancy of the pigs. By this plan, they can be the better fed than when together.

It is needless to say that the kind kept by Mr. Roy are worth taking this little trouble with. They are Berkshire and grazier. He says that both sows and pigs do enough better to pay all trouble.

Dr. Mallory, of Hampton, Virginia, has a new way of keeping both pigs and negroes honest and out of mischief. He gives each man and woman two, and each working boy one pig in the spring of the year, and requires them to shut them in pens, each one's pigs by themselves and to keep them well furnished with materials to make manure. To each of these pigs is dealt out a daily ration of two ears of corn, until "roasting ear time," and the owners are allowed to feed them all they will eat until killing time. The pork is then equally divided between master and servant who sells his part for cash. The doctor believes the manure is worth as much as the corn fed during summer; and there is another advantage connected with the plan—the negro is not tempted to steal corn, perhaps, from the horses, to feed his pig, and besides, it is contrary to negro nature to run away and leave a fat pig.

**TO DESTROY WILD ONIONS.**—A correspondent complains of his farm being much infested with wild onions, and asks how they can be destroyed. The most effectual way we have yet tried is, to feed the tops off early in the spring with sheep. As soon as this is done, remove the sheep from the pasture, and when the onion tops spring up again, turn the sheep on a second time, and so keep repeating till the onions are killed, which is usually the first season. Sheep are very fond of the tops of wild onions, and as they are usually six inches high, in this climate, by the middle of April, it has been suggested that they would be well worth cultivating for early sheep pasture. We cannot agree with this opinion, and much prefer wheat or rye; for they are as early in the spring as wild onion tops, and are far more nutritious.

**PASTURE LANDS.**—When fields that have laid in pasture two years have been subjected to the plow, the yield from the subsequent crop has been found to be one fifth more productive than land similarly situated, from which the grass had been mowed the first year, although pastured the second.

## THE HORSES OF SIBERIA.

THERE are two distinct races of horses in Siberia—the Mogul or indigenous race, and the race imported by conquerors. In the former category, there are many, those especially which are used in rural labors through the country, and in teams among the towns, whose breed, by dint of good feeding and careful training, has considerably improved, and which have acquired, in size and strength, what they may have lost in speed and liveliness. By far the greatest portion, however, of the horses which Siberia boasts of, are contributed by the Steppe, from its own pure Mogul race. These are ugly, of small size, of uncouth make, their coats curiously colored, their heads as huge as in the days of Zenghis Khan, the heads of their progenitors, long and pendant, and their ears shaggy. On the other hand, however, they are of fiery mettle and extraordinary swiftness. Left in an entirely savage state, untended or unvexed, they wander in thousands, guided by their stallions, over the whole face of Siberia, and particularly over the Steppe of Barabinsk, which is the prolongation of the Kirghish Steppes, and which is appropriated pre-eminently to the rearing of horses. While summer lasts, their pastures afford them a plentiful forage; but in winter, they are reduced to the withered herbs, which sparingly dot the soil, and which they are often driven, under the guidance of their instinct, to disinter from depths of snow.

In so vast a region as Siberia, where, for want of canals, railways, or steamboats, the horse is the only available medium of locomotion, the inhabitants have very naturally bestowed an anxious degree of attention upon the rearing of the equine race. And as the immense deserts which separate the inhabited localities turn every removal, however trivial, into a long expedition, the grand object has been to impart to their horses the utmost possible hardihood and capacity for bearing fatigue, privation, and the inclemency of the seasons—in a word, to impart to them the vigor necessary for those rapid and flying journeys in which all Russians delight. The results which the Siberians have attained in these matters are incredible. It is not uncommon to see their teams accomplish a distance of 200 versts unchanged; and such is the acquired abstemiousness of their horses, that they often remain for forty-eight consecutive hours under the yoke *without being once baited with feed or drink*.

These extraordinary local severances, indeed, have reacted on the manners of the inhabitants, and have originated very peculiar customs. In the north of Russia—thanks to the daring temperament which is one of the characteristics of the nation—the people's classic equipage of the *Troik*, has from time immemorial served for picturesque contests, in which the drivers of the rapid vehicle which is seen scouring the streets of the capital in every direction strive to surpass each other in dexterity, and in the prompt agility of their horses. In the south, on the contrary, the manners of the Cossacks, a race essentially equestrian, have made the saddle, not the droshky cushion, the universal conveyance. Siberia,

being compounded in its population of these two types of the Russian race, has become, by pre-eminence, the scene of these tournaments, which enjoy for a race course a flat country of many thousands of square miles in extent. Every moment you behold along the high roads heavy trains, (called caravans,) of travelling carriages, whirled on, at the utmost speed of their teams, and contending one with another in pace, precisely as if it were a real race by the stop watch. Indeed, in the very language of the people, the word *to race*, has supplanted the term *to go*. You are not told that *such a one has gone this way*, but *such a one has raced this way*. Each village and each town has its own horse races, which are made the occasion of considerable bets among the inhabitants, and have acquired the importance of national festivals.

The preparatory training of the horses is very rigorous, and never lasts less than a fortnight. The whole of this period is spent in starving the animals, in order to give them greater lightness and spirit, in bathing them continually, and in exposing them now to the frosts of winter, and again to the heat of vapor baths. In the preparatory races, they appear enveloped in felt coverings. Entirely deprived of food on the eve of the race, the horses are led into the arena feverish with impatience and hunger, neighing long neighs, plunging with eagerness, and their grooms have the greatest difficulty in holding them in at the starting post. When the jockeys mount, they are careful to turn their coursers' heads the way directly opposite to the true direction, and facing the barriers. Without this precaution, no power on earth could make the steeds await the signal. The aboriginal natives of these countries evince rare skill in breaking the wild horse. They throw themselves on his back without saddle or bridle, and bit him at the very height of his fury, after having first grasped his ears. The Tcherkissies of Irkousk have a different method. They first bit the horse which is to be broken, and then, while helpers hold the animal, and by means of long chords, prevent his throwing himself down. In spite of his plunges, the rider mounts, his feet being bare, and he himself armed with a Cossack whip. By this method, it is easy to master a horse in the course of two or three days at most. In the chase after wild horses, a peculiar breed of horses is employed in Siberia. These are called *outruchnoi*, (picklocks,) on account of an instrument used by the huntsmen, and which is in the form of a long hook, furnished with a running knot.—*Journal des Haras et de la Chasse*.

## CULTIVATE A VARIETY OF CROPS.

THIS principle is inculcated by several considerations; variety of soils and situations; use of the products for various purposes, feeding to stock, selling in market, &c.; time of planting, cultivating and harvesting; variableness of climate; the necessity for rotation of crops or change on the same fields; the eradication of weeds, &c.

Some fields may bear remunerative crops of one plant, yet leave a deficiency from the cul-



tivation of another; and not only are particular soils adapted to one species of vegetation, but so, also, are particular manures, some of which are much more convenient or economical for one locality than another.

So, too, of planting and cultivating. When one species of seeds are put in the ground, and the farmer is waiting to till them, it may be just the time to sow others. When they have sprouted and require to be looked after, one may need attention at one moment, and one at another; while a third, as of the small grains, grasses, and clover, require no subsequent attention except harvesting.

A season that is very cold and wet may be beneficial to one crop, as of grass, and some of the grains, while such as are hot and comparatively dry, are better for others, as Indian and broom corn, and various other products and fruits. The multiplicity of crops in the ground at the same time, is thus equivalent to an insurance on the weather; in which the proprietor gives up a very large possible yield for one crop, while he secures a fair return for his general labor.

Again, various species of animals require different food, and each requires a variety—sometimes hay and straw, at others, grain, meal, or roots. Occasionally, too, the market may be high for particular products, of which the farmer may have good store, and which he may sell to much better advantage than to feed to his stock, a purpose for which, perhaps, it was originally designed.

The necessity for rotation with all its advantages, has been elsewhere specified, and we have not time now to enumerate them.

Various crops may require different kinds of labor. The old and young, and females, too, may frequently be as advantageously employed by one occupation, as in the dairy, or garden, or poultry yard, as the hardy and strong, by others, in the field. Some may require more or less assistance from the horse or ox, while others are adapted solely to manual labor; and certain articles, as flax and wool, may be raised to eke out employment for the inmates of the house during our long winter evenings.

Thus a thousand economical considerations may justly induce us to give variety to our occupations and the various objects of our agricultural pursuits.

#### NORTH-CAROLINA FARMING.

*When is the Best Time to Sow Clover at the South?*—Mr. Henry K. Burgwyn has tried some experiments upon his plantation on the river Roanoke, in North Carolina, by which he thinks three quarts of clover seed to the acre, sown in the fall, will make as good a stand as four quarts in the spring, or rather in February, which is the usual time of sowing. The only objection to fall sowing is, that some think it injures the wheat. Mr. T. P. Burgwyn is of this opinion. On the contrary, Mr. H. K. B. thinks that the clover, that is cut with the straw, will more than make up any loss in grain, as feed for cattle and increase of manure.

*Broad Wheat and Clover Fields.*—Mr. H. K. Burgwyn has 500 acres of wheat now growing, 315 of which is sowed in clover, herds' grass, Timothy, or rye grass. Besides this, he has 220 acres of clover and grass from last year's sowing. Some of the clover sowed with wheat, last fall, grew two feet high. His brother, Mr. T. P. Burgwyn has 700 acres in wheat, and sowed in February, 70 bushels of clover. He has good clover that was sowed in May. He says his brother's fall-sowed clover clogs the reaping machine. I will give facts—let others draw conclusions.

*Deep Plowing.*—Mr. H. K. Burgwyn has plowed some of his land with two four-horse plows, one after the other, followed by a three-horse subsoil plow in the same furrow. Seven horses to one furrow is a common practice of both these gentlemen. Do you hear that, ye surface scratchers? R.

#### PROFITABLE CROP OF CORN.

I PLANTED 9½ acres, had the sod inverted with the plow, then put ten loads of well-rotted manure, to the acre, and harrowed it in. Planted in squares 3½ feet each way, put four or five grains in the hill, dropped about a table-spoonful of plaster in each hill, then covered the corn and plaster together. The weeds and grass were destroyed with the plow and hoe, in the usual manner.

The yield was 36 loads—the cart holds 34 bushels, making in round numbers, 1,224 bushels of ears, which was disposed of as follows:—

Sold 300 bushels of shelled corn, at	
62½ cents per bushel,	\$187.50
" 1,800 lbs. pork made wholly on corn,	110.00
" 1,100 " " put up for family use,	65.00
Fed horses, cattle, poultry, &c, not measured, say	50.00
28 loads of stalks, worth \$4 the load,	112.00
	\$624.50

Peekskill, N. Y., April, 1850. T. FOUNTAIN.

*INFLAMMATION IN THE HORSE.*—The disease may be distinguished by a coldness of the extremities; this at least indicates inflammation, or that the blood is determined to some local part, and the heaving of the animal's flanks, and his anxious looks at his bowels, as well as their tenderness when touched, will indicate the seat of inflammatory action. The first object is to release the system, and counteract the impetus of the blood; bleeding persevered in, until the horse drops, is the only chance for saving his life. There is another principle in horse medicine which here will be called into vigorous action. No severe inflammation can take place in two contiguous parts of the system at the same time. To lessen the internal inflammation, the belly must be largely and powerfully blistered, and these are the two means of subduing the disease. No purgative medicine should be given, but the horse "back-raked," to prevent the formation of calculi, and a clyster administered in the form of onion broth. All stimulants must be avoided, as they are sure to act as poison to the animal.

## MR. ROBINSON'S TOUR.—No. 19.

*Sea-Island Cotton Planting.*—Edisto Island, one of the largest of the South-Carolina group, about thirty miles southwest of Charleston, containing 5,000 or 6,000 inhabitants, is the principal point where this valuable crop is cultivated. It is a sandy soil, but little above tide, which, flowing through many channels, gives very irregular shapes to the farms, but boatable water almost at every man's door. By this means, the crop is conveyed to market, boats being substituted for wagons. There is considerable marsh, some of which has been reclaimed, and produces good cotton.

Salt-marsh mud is much used for manure at the rate of about forty one-horse cart loads to the acre. Some compost it, others put it in the cattle pens. Some dry it before hauling, and then spread upon the land. Mr. John F. Townsend prefers to use it as soon as dug, spread upon the land wet, and plowed in. He is the only man on the island who uses plows to any extent. All the land is cultivated with hoes, upon the two-field system; that is, one field in cotton, corn, and sweet potatoes, in the proportion of about seven twelfths cotton, three twelfths corn, and two twelfths potatoes; in all, less than six acres to the hand. As the soil is generally very light, it is unproductive without manure. Therefore, as many cattle are kept as can be pastured upon the "field at rest," and the marsh and woodland. These are penned in movable yards, littered with fine straw and coarse marsh grass or weeds, which is also used to lay along between the old rows, to which muck and manure is added, and all the grass sod which has grown during the year is hoed down into alleys, and the bed formed upon it, keeping the bottom as solid as possible.

If the plow were substituted for the hoe, twice as much manure could be made; or what, in my opinion, would be far more economical than digging muck or keeping so many cattle merely to make manure, would be the use of guano. As this substance contains the same fertilising properties of muck, in an hundred fold degree, I would most earnestly recommend planters to try the experiment by applying about 200 lbs. to the acre, plowed in deep, or buried in the bottom of the cotton or corn beds. Make use of none but the best Peruvian, and purchase it from a reliable merchant, so as to be sure it is genuine.

It is true that cattle are easily kept here, living in winter in cotton and clover fields, eating the unmaturing bolls of the former and stalks of the latter. In warm winters, there is much grass, and in summer, I believe, it is rather abundant throughout all the south.

Cotton is planted from March 20th to April 10th, upon high beds, five feet apart one way, and from eight to twenty-four inches apart the other. Corn is planted about the first of April, upon the same kind of beds, from two to four feet apart. Sweet potatoes are planted the latter part of March; also upon same kind of beds as the cotton and corn. As soon as the vines are sufficiently grown, say on the

first of June, they commence planting the "slip crop." This is done by taking the vines from the seed beds, and laying along the top of other beds, and covering a part of the vines with dirt, when they immediately take root, and grow a better crop than from the seed. The bed is made rich and mellow, but the land below is kept as hard and firm as possible. The beds for cotton, corn, and potatoes are all made in the same manner and distance apart, and are reversed every other crop; that is, changed into the alleys of the preceding one, but no rotation of crops is practised. The average yield of potatoes, is about 150 bushels to the acre. Cotton, (long staple,) 135 pounds. Corn, 15 bushels of the southern white-flint variety. No other will stand the depredations of the weevil.

The amount of labor to grow and prepare for market a hundred pounds of Sea-Island cotton, is estimated at fifty days' work; that is, the small amount of labor which a negro does at "task work." The first process of preparing land for cotton, after manuring, is "listing"—that is hoeing the grass off the old beds into the alleys. A "task" of this work is one fourth or three eighths of an acre a-day. Next, the old beds are hauled on top, at the same rate. The whole "task system" is equally light, and is one that I most unreservedly disapprove of, because it promotes idleness, and that is the parent of mischief.

The system of upland-cotton and sugar planters, of giving the hands plenty to eat, and steady employment, is a much better system. Meat is not generally fed to the laborers in this part of the state. The diet is almost exclusively vegetable, varying upon different plantations somewhat. The following are the weekly rations upon four places, which will give a general idea.

1st. One bushel potatoes a-week from about October 1st to February 1st. Then one peck of corn, ground or unground, as preferred, or one peck of broken rice. Meat occasionally.

2d. One bushel potatoes, or 10 qts. corn meal, or 8 qts. of rice, and 4 qts. of peas, with occasional fresh meat, and twenty barrels of salt fish and two barrels of molasses during the year. Number of people 170.

3d. Half a bushel of potatoes, 6 qts. of meal, and about 2 lbs. of fresh meat, or 10 qts. of meal, or 10 qts. of rice. Carpenters, millers, drivers, and others, who do not raise crops and hogs for themselves, have a much larger allowance.

4th. Half a bushel of potatoes, or 10 qts. of meal, and at times, when the labor is hard, a quart of soup a-day, and in light work twice a-week. This is made of 15 lbs. of meat to 75 qts. of soup, thickened with turnips, cabbage, peas, meal, or rice. Upon this place, as well as many others, the people can get as many oysters, crabs, and fish as they like. They also keep a great many more hogs than their masters, but generally sell the pork instead of eating it. A half bushel of sweet potatoes, as measured out for allowance, by repeated weighing, averaged 43 lbs.

The process of preparing Sea-Island cotton



for market after it is grown, is so remarkable, and so little known, that I will give the particulars.

In gathering it from the field, great care is taken to keep it clean and free from trash and stained locks. Upon the drying scaffold it is sorted over before packing away in the cotton house. When ginning, in fair weather, it is again spread upon the scaffold, and assorted. Some run it through a machine called a "trasher," that whips it up and takes out sand and loose dirt. It then goes to the gins, which are the same kind first invented; none of the many new inventions have been found efficient, and the Whitney gin totally unfit for Sea-Island cotton. These simple machines are  $3\frac{1}{2}$  feet high, 2 feet long, and 1 wide, with an iron fly wheel like that of a "box cornsheller," upon each side, working a pair of wooden rollers, made of hard oak, about ten inches long and nearly an inch in diameter, held together by screws. In one instance, I saw a simple spring bearer under the lower roller and an iron one on top, to prevent the cotton from winding. These rollers wear out, and have to be replaced by new ones every day. I would recommend gutta-percha, as worthy a trial, as a substitute for wood, as something tough and hard is required. The rollers are moved by the foot, like a small turning lathe, the operator standing at one end of the gin, feeding the cotton very slowly through the rollers, leaving the smooth black seeds behind. A "task" is from 20 to 30 lbs. a-day, according to quality. Twenty or thirty of these little machines stand in one room; and strange to say, none of those who have attempted to propel them by other power have succeeded. One very intelligent gentleman told me that he had spent \$5,000 in trying experiments in machinery to gin this kind of cotton.

From the gins, the cotton is taken to the mote table, where a woman looks it over very carefully and picks out every little mote or stained lock, as fast as two men gin. From the mote table it goes through the hands of a general superintendent, or overlooker, and then to the packer. This operation is done by sewing the end of a bag over a hoop, and suspending it through a hole in the floor, and in this, the packer stands with a wooden or iron pestle, packing one bale of about 350 lbs. a-day, as fast as it is ginned; as exposure to the air injures the quality, and it is not so salable in square bales packed in presses, as it is in hand-packed bags.

The whole operation of preparing this valuable staple for market requires the nicest work and careful watching of the operatives, as a little carelessness injures the value to the consumer. It is worth from 30 to 50 cents a pound—more than common wool.

The cultivation of these plantations is exceeding neat—too much so, probably, for the greatest profit, as has been proved, I think, by Mr. Townsend, in the use of plows instead of hoes. Mr. T. has also proved that sugar cane will grow well, and has put up a small mill, and made some sugar. The cane matures fifteen joints and granulates well.

#### HOW MUCH LIME WILL AN ACRE OF LAND BEAR WITHOUT INJURY?

This is a question often asked and as often answered in various ways. Some persons contend that no more than fifty bushels of slacked lime should ever be used at once, while others are of the opinion that it is better to put on 100 bushels at first than to make two or three jobs of it; and that there is no danger of an overdose; while, on the other hand, it is alledged that too much will kill the land. Now, how much is "too much?" This depends much upon the nature of the soil.

The largest amount within my knowledge, was applied by James P. Corbin, Esq., of Caroline county, Virginia, upon cold, clayey land, known in that region as "pewtery land," because, when wet, it seems to run together somewhat like melted pewter, with a glistening surface. Upon two acres, he put 1,600 bushels, and plowed deep, drained well, and planted in corn, and made a good crop. It was then sowed in wheat, and when I saw it in April, it looked far better than any upon adjoining land, and about two thirds as good as that upon which guano was applied—one costing \$64 and the other \$5 an acre. I cannot advise others to follow suit, though the experiment, so far, has proved that some land cannot be "killed with lime."

S.

#### EASY METHOD OF DRAWING WATER FROM A DEEP WELL.

ONE of the best pieces of mechanism that I have seen for this purpose, was applied to a well 80 feet deep, by W. P. Carmichael, at his mother's, Mrs. C's residence on the Sand Hills, near Augusta, Georgia. It is upon the same plan as the simple hoisting apparatus of a store; or that described at p. 177 of the current volume; that is, an endless rope, to which two buckets are attached, passing over a wheel, about six feet in diameter, which turns the barrel upon which the rope is wound. A hinged lid, on top of the well curb, directly over each bucket, is thrown back as the bucket comes up, and, as soon as clear, falls, and the bucket is eased back and stands upon it till wanted again.

A boy a dozen years old can draw water with this apparatus without fatigue. A pipe leads from a tub by the side of the well to the stable, about 150 yards off, thus affording a convenient watering place for the stock.

R.

**WIREWORMS DESTROYED BY SODA ASH.**—The Highland Agricultural Journal asserts, that soda ash will kill the wire worm. There is little doubt of this, if applied in its caustic state directly upon the worm; but when he is covered with a stout jacket, consisting of several inches of earth, we opine, a blister might be applied to the overcoat of a patient with equal hope of success. However, like the post-mortem ingenuity of the old man who bequeathed the pot of gold to that lucky finder who should most industriously dig over the vineyard where it was alledged to have been buried, the application would undoubtedly result in largely augmented crops.

### TO PROMOTE THE SUCCESS OF COUNTY AGRICULTURAL SOCIETIES.

THOSE county societies in our state, which have been most successful in raising funds, that have done the most good, and which have made themselves most popular among the farmers of their respective counties, have adopted the following general plan of proceedings:—

1st. Erected permanent buildings for their fair, at the most convenient and accessible location in the county. For this, they annually obtain a considerable contribution from the inhabitants of the place, it being quite advantageous to them to have the fair held there.

2d. The exhibition grounds are fenced in with a tight, high board fence, the admission fee to which is one shilling. Such is the fondness of human nature to witness shows of any kind, and more especially when shut in from vulgar gaze, that thousands will pay a shilling for the privilege of entrance, who would not contribute a single penny as subscription, or membership, to the most useful society in existence.

3d. The competition is made open to every citizen of the county, whether a member of the society or not; but all competitors are required to pay a small fee on each animal or article entered for a premium—the fee in each case being a uniform percentage on the premiums offered.

4th. The fee for membership is fixed at one dollar, which no enlightened and liberal farmer ever makes any objection to pay.

5th. A liberal list of premiums and prompt payment of the same.

Lastly, various innocent shows and amusements are permitted at the same time the fairs are held, which tend to popularise them among the farmers.

So long as the county societies have been ambulatory in their exhibitions, and above all, held open to the sight of all, they have required the hardest kind of work for a few spirited men barely to keep them up in a miserable existence, no matter how often and in whatever shape they might appeal for their support to the people of the county. But the moment the *fenced* grounds were adopted, making the thing a little exclusive, then they would flock there with their wives and children by the thousand. Pride and curiosity were immediately aroused, and the people would enter the *fenced* grounds; and the best of it was, that they would at the same time with equal alacrity hand out the shining

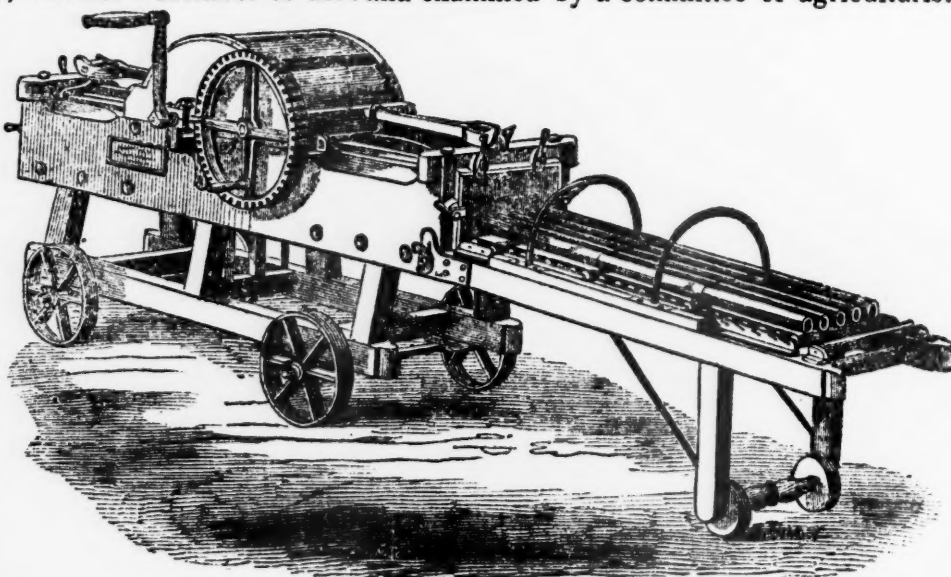
shillings for the privilege of doing so. This is human nature, and it must be dealt with accordingly; it will always contrive somehow to force barred gates, and enter forbidden grounds.

### TILE MACHINES.

THE following, from a zealous and intelligent friend of agriculture, long and favorably known to farmers of western New York, gives some valuable information on the subject of thorough drainage:—

The machine imported by me, for making draining tiles of various sizes and patterns, was made by Thomas Scraggs, of Calvely, Taporley, Cheshire, England. The cost at his works, with a large assortment of dies, screws, mandrels, &c., was £35 1s. The freight and charges amounted to £12 more. Total cost in New York, £47 1s. Additional charges to deliver it here, and incidental expenses are not necessary in computation of cost to others.

The weight and space occupied, I have no means now of stating. The machine was made for me under the personal inspection of a friend, and examined by a committee of agriculturists



TILE MACHINE.—FIG. 57.

before sent to me. It is capable of turning out from 4,000 to 6,000 tiles per day, worked by hand, with two boys at the winch, one man to unload the table, and another man to carry the tiles to the drying shelves. The machine, however, has not done that quantity of work here, though I feel confident that, under economical disposition of time, it can easily perform the highest rate stated. I allude to tiles of 2½-inch rise by 15 inches long. Pipes are made much faster. No horse is necessary except for the pug mill, for tempering the clay.

I am not aware that any machine of this character has yet been made in this country. Our mechanics are fully equal to those of England, and are capable of making and improving them; and whenever the demand will warrant the expense of forming the first patterns and moulds, they can be made here, comparatively, at a very



small cost. There is a foundry near me, where they can be well made by artisans of merit and talent; but I have not dared encourage them before there exists a greater demand. Several persons have applied to me under like circumstances, but whenever the expense of patterns can be secured, a machine will readily be produced.

The machine imported by me is kept in constant work, so great is the demand for tiles. I laid about 10,000 on my farm, last autumn, and the benefit is now strikingly exemplified. I am now thoroughly satisfied as to their importance, and economy in their use. It may be some time, however, before our farmers, in general, will be convinced that a subsoil is wet and poisonous to their grain, when they do not see it standing in puddles on their fields. Several of my drains have poured forth streams of pure pellucid water, where the surface was dry, soft, and pleasant to the tread; and where a sour grass was produced, I now have most luxuriant wheat plants. This county will exhibit many such results this year; and such proofs will cause a rapid increase of tile draining from year to year.

J. DELAFIELD.

Oakland, Rose Hill, Seneca Co., N. Y., 1850.

#### SUMMER PRUNING.

THIS month, or the next, is the proper season for pruning fruit trees, and such others as shed their leaves in autumn. In consequence of the downward motion of the sap, new wood is formed and a more perfect healing of the wounded parts takes place, than when the operation is performed in winter or spring.



PRUNING SAW.—FIG. 58.

The branches should be pruned off close, and with a clean, smooth cut, without starting or bruising the bark. This may be done with a very convenient instrument called a "pruning saw," denoted by the above cut. It is constructed of various sizes, with fine teeth, and is usually from 14 to 18 inches long. See pruning implements, also, at page 33 of the current volume.

#### CUTTING AND CURING HAY.

In passing the hay market near 6th street, in your city, when I resided there, I often noticed the great difference in the color and quality of the loads of hay. While some were of a bright green, others were almost black. I believe I now understand that the variation depended upon the time the hay was cut, and the manner of curing it. Last summer, I commenced mowing my clover when it was in full blossom, when the weather was fine. The previous year, the crop was nearly lost by leaving it too late, when the clover fell, and so badly lodged as to rot a great part of it. I attempted to cure it the same day, but as it was by far too green, I was obliged to leave it the part of a fine day, to the exposure of the sun in the swath, and turn it carefully over once. Towards night, I put it

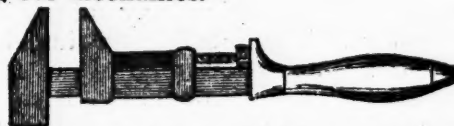
in small, tall cocks, and left it a day or two. I opened the cocks for a short time to dry it, and then carted it into the barn. Most of my other grass, I cut equally early.

The result was, that my hay has been of the most superior quality, preserving the richest fragrance, and the leaves and blossoms of the clover, remaining almost entire. The latter, when chewed, had the exact taste of the blossom upon the growing plant. In feeding, I have had it cut up with a hay cutter, mixed with bran and ground feed, and given to my stock, which would have consumed much more than I had, if I had not pursued this economical course. My cattle are in fine order, and the cows have given milk all winter, instead of drying off as usual.

At the time of mowing, I selected a strip of Timothy grass, which appeared to be pure, and left it to ripen. This, I cut in the usual way with the scythe, and raked it up with the horse rake. After it was carted in, it was left on the barn floor for a day or two, and then threshed with flails. From what I cut, I cleaned up a barrel of seed, and the hay was sold with the rest, for the usual price. H.

#### ADJUSTABLE SCREW WRENCHES.

In the arrangement, combination, and proportions of the parts, these wrenches are acknowledged to be the most convenient, efficient, and strongest now made, and having been long in use and fully proved, are most favorably known among our mechanics.



ADJUSTABLE SCREW WRENCH.—FIG. 59.

The screw which moves the sliding jaw is most expeditiously and easily operated by the thumb of the hand that grasps the handle, and the space between the jaws is adjusted to the size of the nut or screw, to be turned under any circumstances, more easily without than with the assistance of the other hand, which may be otherwise engaged.

By placing the screw that moves the traversing jaw by the side of the shank, or main bar of the wrench, the full size and strength is retained.

ROTATION OF CROPS.—Wheat may follow clover, beans, peas, the hard crops, or an old turf, with decided advantage, as there is a change or rotation from one species of plant to a different one. Not so, however, when it follows Timothy, for here it is one grass following another, the wheat being classed by botanists in the order, *gramineæ*, of which it is a true member. Wheat does not, therefore, appropriately succeed Timothy, as it would not herds' grass nor rye grass, nor any other of the true grasses, unless first fully and properly dressed with appropriate manures. Hundreds of farmers have observed this fact, and are surprised at it. Had they read the agricultural papers aright, they would have learned this was a result not only to be wondered at, but that any other would have been a first cause of wonder.

# PRINCE ALBERT'S PLAN OF DISPOSING OF TOWN SEWERAGE.

At a late meeting of the council of the Royal Agricultural Society of England, a plan was presented for their consideration, from his Royal Highness Prince Albert, one of the governors of the society, on turning the sewerage of towns, at present the cause of disease and pestilence, into a source of national wealth, by its application to purposes of agriculture.

The plan proposed, was, to form a tank, with a perforated false bottom, upon which a filtering medium should be laid; and to admit at one end the sewerage into the tank, *below* the false bottom, when, according to the principle of water regaining its own level, the sewerage liquid would rise through the filtering bed to its original level in the tank, and, provided the filtering medium had been of the proper nature and of sufficient thickness, it would be thus freed from all mechanical impurity, and would pass off into the drain, at the other end of the tank, as clean and clear as spring water. This simple and effective plan was illustrated by drawings, showing the vertical and horizontal sections of the tank, and by a neatly-constructed model of its external form and internal arrangements.

It was also clearly shown by these sections, how the sewerage matter could be let into the tank, or shut off, when necessary, in the simplest manner, by means of common valves; and with what facility such a filtering tank might be applied to every existing arrangement of sewers, without requiring any alteration in their structure. The filtering medium having abstracted from the sewerage all extraneous matter, would, in all probability, become the richest manure, and could, at any time, by stopping the supply of sewerage, be taken out by a common laborer, with a shovel, and carted or shipped to any place thought most desirable. The solid matter, too, held in suspension by the sewerage, would probably form a very rich deposit at the bottom of the tank, of a substance approaching in its qualities to guano, and could be extracted by removing the false bottom, which rested on arches or vertical supporters over the sewerage below it in the tank, and could be easily made to lift up or take out for the purpose of such extraction. Two tanks might easily be constructed together, so that one might continue in operation while the other was being emptied. The experiment might be tried at any house drain in town or country; in fact, the prince had himself tried the operation on a small scale with apparent success; and while he thus suggested an important and extensive application of the hydrostatical principle involved in the plan proposed, he wished to lay no claim to originality in the adoption of that well-known law of fluid bodies by which they make an effort, proportionate to their displacement, to regain their equilibrium. On that principle was founded, as he was well aware, the upward-filtering apparatus used by the Thames water companies. Prince Albert's great object was by the simplest possible means to attain a great end; to effect an essential san-

itary improvement, and at the same time to create a new source of national wealth, by the very means employed for the removal of a deadly nuisance, and the conversion of decomposing matter, highly noxious to animal life, into the most powerful nutriment for vegetation. He wished to offer no opinion on the details required to complete the plan proposed, nor on the mode of carrying it out in the most effective manner. Supposing it to be right in principle, its advantages, in an economical point of view, he conceived could only be ascertained by practical experience; and it was on that account that he wished to submit it to the consideration of the Agricultural Society, who might be better able to carry out the necessary experiments. It would remain to be decided what is chemically or mechanically the best, and what the cheapest substance for the filter; what the best and cheapest construction of the tank; how long the sewerage will pass before the filter becomes choked; and how soon the filter could be sufficiently saturated to make it profitable as a manure. He had used as the filtering medium, the following substances:—

1. Charcoal—admitted to be the most perfect filtering substance for drinking water, retaining effectually extraneous matters, and well known for its singular powers of purification.

2. Gypsum, (plaster of Paris, or sulphate of lime,) recommended by agricultural chemists, for fixing ammonia and other volatile substances, by the decomposition to which it becomes subject, when exposed to the action of volatile alkali.

3. Clay, in its burnt state, would act mechanically as a filtering bed; and in its unburnt state, on account of its aluminous salts, has also the property, like gypsum, of fixing ammonia, or of decomposing the ammoniacal and other alkaline salts present in manure; and in either state would be cheaply procured.

All these substances, it was thought, would in themselves be highly useful as manures, independently of the purpose they would subserve as agents for filtration, or of the additional amount of manuring matter they would receive from the sewerage which they purified. In thus incidentally referring to the substances he had himself employed for the filtering medium, he was well aware how many more of equal, if not superior value would suggest themselves to others, who, like himself, felt an interest in effecting the important object proposed. As he had given no opinion on the general question of the liquid or solid application of manure, but had merely stated the grounds of preference, in a practical sense, of the solid form over the liquid for the purposes of the filtering operation under consideration, he entered into no discussion on the amount of manuring matter retained by the filter, compared with the soluble matter that might pass through it along with the water, and remain in that liquid in a soluble, colorless, and transparent form; nor of the value of such filtered water for agricultural purposes. He had confined his observations to the agricultural value of the filtering bed, and the



rich deposit obtained in the purification of sewerage for sanitary purposes.

After the general expression of the members present, of the approval of the plan, and of the gratification it gave them, to find that his Royal Highness was devoting his enlightened attention to matters of such vital importance to the country, the council unanimously voted their thanks for the kindness with which he had honored them with so interesting a communication, on so important a subject.

#### BREAKING ROCKS WITH FIRE.

I BELIEVE it is not generally known that large boulders may be easily broken with fire. I have broken many that were on my land in the following manner:—If the rock is imbedded in the earth, remove the earth around it, and with a large lever raise one side of it a little, and put small stones underneath, so that when it cracks, it will separate of itself. Then, make a narrow fire across it, and in a short time it will crack, so that, with an iron bar and a small iron wedge or two, it may easily be separated. If scales start on it before it cracks, they must be removed, which can be done with a pair of tongs. If it does not break readily, build the fire across in another direction. In this manner, a man will break a dozen large boulders in a day.

L. C.

**PLOWING IN CORN FOR MANURE.**—When sown broadcast, even if it has reached a height of six or eight feet, this is easily done by attaching one end of an ox chain to the clevis of the plow, and the other to the beam where the coulter intersects it, throwing the bight, or double part of the chain, into the furrow at the right. As this is dragged along, the stalks will be thrown down and covered by the furrow. To finish up the work, and cover any straggling leaves or tops, attach a light halter chain to the standard of the plow, with a three-pound weight at the dragging end, which throw into the furrow. This will effectually cover up all the crop left unburied by the plow.

#### ECONOMICAL MODE OF DRAINING LAND.

I AM a believer in thorough, systematic draining when the farmer has a capital to do it, but the greater part have not that capital. It is therefore necessary to adopt a temporary system, in order to raise good crops; for it is evident to every farmer, that grain, or even grass, will not grow advantageously on wet land.

The manner of draining that I have practised for years, I will now attempt to describe, which answers a good purpose on all swales and wet places that are not fed by springs. If necessary, let off the water by plowing a furrow, or by opening a trench with the spade; then plow the field. After the sod has rotted so that you can plow to advantage, mark out a land, the centre of which will be where you want your drain, with the outside extending, if practicable, to where the ground ascends. Plow deep, repeatedly lessening the land a little at each plowing,

so as not to leave a ridge between the outside of the field and the centre. By plowing from three to five times, and clearing out the dead furrow in the centre, with a shovel or spade, you will have a drain, or hollow, two or three feet deep, that will last for years.

There are several advantages attending this method. You have a drain nearly dug when you want to put in an underdrain, which may be covered by throwing the earth back with the plow. You also have the subsoil mixed with that of the surface, which, in most cases, is deficient in vegetable mould, and is ill adapted to the growth of wheat and other crops, thus rendering it more productive than any other part of the field.

I have reclaimed considerable wet land in this way, and have found it cheap and expeditious. I always plow the rest of the field, if possible, so as to cross the main drains. I make my lands about three rods wide, always plowing them the same way. When the field is sowed, I run the plow through every dead furrow, and clean out the earth with a shovel or spade. I think if the above method were practised by farmers, we should hear less of the winter-killing of wheat and the failure of crops. My experience has been on a soil and subsoil of clayey loam, which is the character of most of the land in this state, called "timbered openings."

LINUS CONE.

Troy, Michigan, 1850.

#### THE FARMER'S HOME.

WHAT place ought more deservedly to be a place of happiness and peace, than the Farmer's Home! It stands, may be, upon the soil consecrated by the labor of his own parents' hands; hallowed by the recollection of his own sunny childhood; endeared by the sweet memories of other days. If not, it is at least his home. It stands upon his own heritage of earth's broad surface, and its doorway opens upon his own fields of waving grain. No pestilential breath of the city's corrupting influences pollutes the free, fresh air which plays around it. The birds, near the windows, warble their morning and evening songs, and the setting sun throws its lingering shadows through the old trees that stand, (or ought to stand,) around it. And when the night time comes, and silence takes the place of the busy hum of industrious hands, labor-brought sleep folds all within its embrace, until the morning light brings again new labors and new pleasures. Such is, or should be, the farmer's home.

Love of home is one of the strongest principles implanted in the mind by our Creator, and when cultivated, is productive of pure and natural enjoyment. The happiness of the domestic circle has long been celebrated in poetry and in song. With how much beauty and truthfulness, the home-loving man alone can tell! But love of home and the domestic circle is not only productive of happiness, but of morality and virtue. This feeling, existing strong and unbroken in the minds of our children, is one of the surest safeguards against vice. It is one of the most

powerful ties to bind them to the pure and the true. Such being the case, ought not every parent to do all in his power to cherish this feeling in the hearts of his children? Most certainly, yes! And how can it be done? By farmers, I mean, for it is for them particularly that I am writing.

And first, by way of illustration, let me here briefly sketch two pictures. In the foreground of the first, you will behold a two-story "shingle palace," standing close by the roadside, affording a fine passage for the dust at all times in summer through the open doors and windows. A dark-red fence most securely incloses a small space, perhaps six feet wide, and just as long as the dwelling. Some remembrance of "long ago," in the shape of antique hog troughs, are carefully thrown down by the fence a few feet from the yard; while a troop of "alligator" pigs vigorously testing the strength of their respective lungs, wear off what little fat they otherwise might have had by their incessant journeyings from the front door to their eating logs. No trees are guilty of overshadowing the spot; the house stands "alone with its glory." On every side is shown the most deplorable disorder and negligence. The backside looks, if possible, worse than the front; and with its living ornaments of chickens, geese, and turkeys, presents a very moving spectacle. Uneven stones, laying upon slop-washed ground, devoid of grass, facilitate the ingress and egress of the inhabitants of this, alas, too-often-to-be-met-with home!

But, kind reader, let us turn our attention from this unattractive picture, and gaze through those broad, green trees, upon that humble cottage, which stands a few rods from the roadside. You can just recognise its windows peeping forth from beneath the luxuriant vines that almost conceal them, and the rustic portico is entirely covered by that beautiful trumpet vine, which, with its rich verdure, forms such a cool summer resting place. What a velvet appearance the little lawn has, as it lays spread out before the door, dotted here and there with flower-covered beds, cut in the turf and shaded so beautifully by the mellow sunbeams, as they cast bright shadows over it from between the broad branches of the trees that stand around it! How beautiful the whole appearance, as we stand here and breathe the fresh, pure air, which seems fresher and purer from having stopped a moment to play with those dark-green leaves, and kiss away the perfume from those beautiful flowers! Parent, bring your little child with you here, show him the two scenes, and judge by his actions which is most likely to cultivate a home feeling in his mind.

But do you exclaim, "Yes, this is all very well for those who can afford it, but I am poor, too poor to go to such an expense." Why, friend! there is no farmer too poor, in our free land—too poor to have a beautiful home of his own; for it needs not wealth to make it peaceful and happy. God has scattered the means all around us, and a little pleasant labor will be sufficient to beautify and adorn it. Spare a

little ground around your dwelling for a lawn, trees, and flowers. You can find leisure to plant the trees, and your wife and daughters will, I trust, gladly attend to the vines and flowers. It will take but a little time, and once engaged in the work, you will reap a rich reward in the labor itself, and feel within you the happy feeling which can only be felt in adorning and making more pleasant your home. True, the ground thus devoted, might be more useful, in a mere dollars-and-cents point of view, planted with corn; but if refinement of feeling and an increased love of home are any recompense for a few paltry dollars and cents, then this little spot will pay most usurious interest upon all the capital invested. If keeping your children from vicious influences, and teaching them to love their birth place, and care for its appearance is aught gained, then rich will be the yearly, yea, and daily return from this small spot! Gladly as they grow older will they tend, and still more beautify it; and "Home Sweet Home," will ever in their after life, exert its purifying influence upon their feelings, leading them to toil earnestly to make for themselves, in their second childhood, such a sweet resting place as that in which their earlier years were passed.

But while I know that the external appearance of home, will not of itself be sufficient to do all this, yet I do contend that if seconded by the amount of internal happiness which usually characterises our farmers' homes, it will do far more than is generally believed. It will throw such a charm about home, that it will prove pleasanter to our sons than the tavern or the grocery. It will present pleasures and amusements at home, sufficient to satisfy the minds of our children; and they will grow up with larger hearts—with more refined feelings—with a stronger love for agriculture. In short, better and purer for having lived in a home made beautiful by rural embellishment. And believing this, we believe the conclusion to which it inevitably leads, that it is a duty which every farmer owes his children, thus to beautify his home.

LUKE DERWIN.

Clinton, N. Y.

**HOUSING MANURE.**—It is miserable economy to throw manure out into the open air, and leave it exposed to all the variations of the weather till it is wanted for use. Some build sheds over their hovel windows, to protect their manure heaps. This is a good improvement, but a manure cellar is better.

**TO CLEAN GUANO BAGS.**—Put one gallon of salt to four gallons of lime, in eight gallons of water, and after rinsing off all the loose guano, in clean water, put the bags in the mixture, well stirred up, and let them remain 24 or 36 hours, and they will wash white and perfectly clean. Don't waste the liquid; it is a valuable fertiliser.

**LARGE DAIRY PRODUCTS.**—Mrs. Hines, of Massachusetts, keeps five cows which produced her, last year, for butter, cheese, milk, and calves, an average of \$67.37 to each cow. Who has a larger story on dairy products?



## FARM OF MR. FRENCH.

SOME of the best cultivated and most profitable farms in New England are in the vicinity of Boston. Among the number is that of Hon. Benjamin V. French, in Braintree, Massachusetts, which is considered one of the largest and most productive in the county. This farm took the second premium last year; and the committee, who visited it in the summer season, having enjoyed a more favorable opportunity of judging of its condition, we give the following condensed account with a few statements copied from their report:—

The farm and outlands contain 185 acres. The homestead, about 90 acres, is composed of strong soil, originally abounding in rock; much of it is thoroughly subdued, drained, and inclosed with heavy stone wall. It is situated on one side of the Monatiquot River, and is occupied as follows:—Mowing and orchard united, 29 acres; tillage and orchard united, 10 acres; nurseries and orchard united, 8 acres. The outlands consist of salt marsh, fresh meadow, swamp for muck, plain pasture, and woodland.

In his mowing and tillage, his first object has been to get rid of surface and spring water, by underdrains, drains under walls, and open drains; next, to free the soil of stones, and put them in deep trenches to receive the wall. The lots to be inclosed are intended to be no larger than is necessary to require all the stones on the lot. As the land is stony, some of the lots are small. After the stones are removed, the land is plowed deep and cultivated one year. The second year, it is subsoiled, and all the stone is then found, and removed from the field. The soil is thus put into the very best condition for cultivation. His grounds are well laid out, and are easy of access by broad avenues and gates. Within the last thirteen years, he has made and re-laid 1,351 rods of wall.

His orchards, generally, appeared to be in a healthy condition. He has spared neither trouble nor expense in procuring the choicest varieties of fruit trees, which he has been planting, yearly, since 1818. His collection is large and select, including 1,815 apple trees, 764 pear trees, 199 cherry trees, 138 plum trees, 445 peach trees, and 52 orange-quince trees, making in all 2,413 standard fruit trees. His nurseries, embracing 8 acres, and containing all the approved varieties, appeared in fine condition.

He has about two acres occupied by dwarf-pear, apple, cherry and plum trees, the smaller fruits, ornamental trees and flowers, which are neat and beautiful, affording a rich treat for the table, and probably as much profit as any other equal portion of his farm.

He cultivates green crops for summer feed; his cows require something more than pasture grass during the hot season. This practice is recommended as a matter of economy, especially on a milk farm. His root crops, sugar beets, mangel wurzels, carrots, ruta bagas, and flat turnips, grown principally for his cows, will amount to about 2,000 bushels.

His stock—six horses, twenty cows, six oxen, and twenty swine, was in fine condition. One

man has the superintendence of his oxen, which are very fine; another, of his horses, and a third, his cows. The cattle are provided both with food and drink in their stalls; the cows are there milked, and everything so arranged that the help about the barns is subjected to the least possible inconvenience and trouble. His barnyards and hoggpens are supplied with muck, which is exposed to the frost and the atmosphere before using. By keeping his stock most of the year in the stalls, his amount of fertilising matter is greatly increased, and he is enabled to produce a great portion of his compost on his own premises—a great desideratum with every agriculturist.

He has laid about 1,000 feet of blind drains, from two and a half to three feet deep, and about twenty-four feet apart. He has subsoiled 10 acres, to the depth of 16 or 20 inches, partly over drains and partly not. The deep, blind drains and the subsoil plowing, he has found beneficial on stiff and moist lands, and recommends the practice.

The comforts about the house are such as might be expected of Mr. French. The men have a cozy, pleasant room, fitted up as a sitting room, for their own use, where they can have a fire when necessary, a dining room and sleeping chambers, all unconnected with the main house. Whatever Mr. French undertakes, he finishes properly. His farm, as a whole, exhibits as much varied husbandry as is usually found in one establishment, and does him great credit.

## CULTIVATION OF PEACHES ON LONG ISLAND.

THE peach on Long Island had almost become extinct, until within a few years, for the want of a sufficient knowledge on its cultivation. Well does the writer remember when large peach trees were standing around the farms producing an abundance of fine fruit. At that day, no one thought of selling peaches; but times have changed since. They have become a profitable article to cultivate.

One reason why peaches have not been cultivated more on this island, late years, is, probably, because our farmers do not understand the treatment they require. We can grow as fine peaches here as they do in New Jersey, and with as little labor. Yet, as Providence has decreed that "man shall live by the sweat of his brow," if we are to have peaches, we must work for them.

Any one who doubts that good peaches can be raised here, can visit the orchards of Messrs. Carman & Co., at Half-Hollow Hills, in the town of Huntington, near the Long-Island Railroad. I have been credibly informed that they have 60 or 70 acres in peach trees only four years old from the seed, from which they raised from 2,000 to 3,000 baskets of fine fruit last season.

In order to have good healthy peach trees, the pits, (seeds,) from which the stocks are to be raised, must be obtained from trees that are young and healthy. Get, also, your buds from young, healthy trees, known as good bearers, and producing the best varieties of fruit. Insert the first season's growth, say about the first

of September. I prefer leaving a little wood attached to the buds, rather than take it all off as is usually the case. It appears to keep the bud alive longer, giving it a better chance to unite to the stock.

If the trees are to be transplanted, they ought not to stand longer than one season from the bud. As a general thing, the younger they are transplanted, the better. The soil in which they are to grow, does not require to be very rich. Such land as we have overrun with red cedar and bayberry bushes will produce good peaches by breaking it up, and sowing, broadcast upon it, from 8 to 10 bushels of bone dust to the acre.

My plan of killing the peach borer is, to scrape away the dirt from around the roots of the trees in the fall, say about the middle of September, when, if there are any of these insects, they may easily be detected and killed, before they get far into the bark. By leaving the roots bare a few days, and going over them again, I am sure to kill them all. I then take a shovelful of wood ashes and put around each tree, and haul back the earth to its place.

My remedy for the "yellows," which I consider a contagious disease, is, to destroy the tree, root and branch, as soon as the least symptom appears.

HAWLEY B. ROGERS.

*Huntington, L. I., May, 1850.*

#### MANURES—THE FOOD OF PLANTS.—No. 3.

In the two numbers preceding, I gave the names of the inorganic constituents of plants, and endeavored to point out various sources from which the enterprising and calculating farmer could frequently and economically obtain them, for the purpose of restoring to his soil an equivalent for those removed from it by the crops harvested. I proposed, also, to say something respecting the organic portions of plants, or those gaseous substances which make up the great visible bulk of all the vegetable productions of the earth, and which perform such important purposes in their growth, and in the maturing of their fruits and seeds.

Carbon, oxygen, hydrogen, and nitrogen make up the great bulk of all vegetable and animal productions; and they constitute that portion of a plant or animal, which is dissipated in the process of burning; the result of which is nearly the same, whether the combustion is at once effected in the fierce fire of a steam engine, or the more gradual decay, by natural decomposition, or the rotting process, that, sooner or later, takes place in dead organic matter. In either case, they are ultimately resolved into these four organic bodies, and are thus prepared in the economy of nature, to be again worked up into new forms of vegetable and animal life. Every cord of wood that is burned restores to the atmosphere just sufficient carbon for the growth of another cord; so of the oxygen, &c. And of all the organic matter that once formed the bodies of the soldiers of Xerxes' vast army, not one particle has been lost, or annihilated;

and, doubtless, some of the identical molecular particles of organic matter, that composed part of the bodies of those soldiers, have been transmitted from vegetable to animal matter, and *vice versa*, hundreds of times since the battle of Thermopylæ.

Carbon, in its solid and nearly pure form, we have in charcoal, and in a dissolved state with oxygen, as carbonic acid gas. Oxygen, hydrogen, and nitrogen are, in their elementary state, simple gases, or invisible air. We have oxygen and hydrogen in a liquid form in the water we drink, and oxygen and nitrogen in a gaseous form in the air we breathe. These three simple gases in the laboratory of the skillful chemist, can be handled, weighed, and measured, and can be combined in different proportions, so as to form a great variety of gaseous, liquid and solid chemical substances, and some of them, too, of a most destructive and virulent nature. Yet, with all his skill, the chemist cannot manufacture from these three gases and carbon alone, nor by the addition of any, nor of all the inorganic matters of plants, any compound or mixture, that will answer the purposes of nutrition, nor as food that will sustain animal life. "And as far as our knowledge at present extends, no animal is endowed with powers of assimilation sufficiently potent to convert into nutriment carbon, nitrogen, and the other ultimate elements of animal substances. These elementary materials require the previous and more efficient action of vegetable chemistry. And such is the vital energy of that chemistry—so thoroughly does it elaborate and combine those elements, that little beyond solution and separation is required of the digestive functions of the higher orders of creation."

It therefore follows, that animals cannot exist except through the intervention and instrumentality of plants; and it follows, too, that vegetable preceded animal life. Moses so tells us in his History of the Creation. Geologists so teach; and researches in animal physiology confirm the truth of Moses and the geologist. The soil might exist without the plants, the plants might live and die, though there were no animals to feed upon them, but the animal is, as it were, the creature and the consequence of both. Long before Virgil's time, it was known that animal manures applied to the land increased the amount of produce, and kept up the fertility of the soil in proportion to the amount of manure applied; but it has been left to the researches of modern chemists to explain to us the how and the wherefore of the favorable action of manures upon the growing crops; as well, also, as the part that some of these elementary substances play in the formation of the different parts and products of plants. The carbon of plants, (that part which can be made into charcoal,) which forms from 40 to 50 per cent. of their dry weight, is supposed to be principally derived from the carbonic acid of the atmosphere, the absorption and decomposition of which is effected by the direct agency of the leaves of plants, in daylight. In the leaf, the carbon is separated from the oxygen, which is restored to the air,



the carbon retained for the formation of the woody texture, and, in connexion with oxygen and hydrogen, forms, in different plants, starch, sugar, gum, rosin, oil, &c., substances wholly composed of carbon, oxygen, and hydrogen; and possibly the atmosphere and water may always furnish a supply of these three elements for the use of all plants. Water being composed of oxygen and hydrogen, may, by the efficient agency of vegetable chemistry, be decomposed in the plant, and thus supply those two gases for new and different combinations. LEVI BARTLETT.

Warner, N. H., March, 1850.

#### ECONOMY.

TEACH children economy, both by precept and example. Economy is one of the main pillars of success and reputation in future life, as avarice is its bane.

The grand element, after superior talent and good sense, in the character of Washington, Franklin, the Adamses, and nearly all our revolutionary worthies and their predecessors, and with equal justice we may add, their successors also, was economy—economy in its broadest sense, economy of time, of opportunity, intelligence and advantages, equally with economy of money.

Without economy, Franklin would have had no time nor money to acquire the stores of information he had treasured up, and that stood him in such good stead in after life. Franklin agreed to board himself for half the amount allowed his fellow apprentices. He bought bread, raisins, and other simple, nutritious, and easily-digested food which he could eat without cooking. The consequence was, he had dispatched his meal in the printing office before they had reached their boarding house. All the remainder of the time occupied by the more laborious meal was by him devoted to those acquirements which subsequently delighted the literary and scientific world. What was saved from his food, furnished the only means he could command for the purchase of books. Thus half the money spent by his fellows on board, amply supplied him with both mental and physical food.

Had Franklin been the low-minded, needy gormandiser, dependent on any greedy schemer or paltry politician for the means to gratify a loathsome appetite, he would have succumbed to the popular clamor when almost universally assailed. But after inviting all his objectors to his frugal repast—a dinner of plain-boiled Indian pudding without dressing—of which he partook heartily, while their pampered stomachs turned from it with disgust, he showed them his independence of popular support, and that even then, he had purposed that self-dependent, *self-dictated* course, which was destined afterwards to challenge the admiration of both hemispheres.

The untiring activity, enterprise, and economy of Washington enabled him to devote the seven long years of the revolutionary war to his country's service, without pecuniary recompense. By the practice of these virtues, he had acquired the ability, largely to augment the gift

of a patriotism so opportune, and so almost indispensable to a suffering nation.

Arnold had his morbid, undisciplined, clamorous appetite to pander for; and without strong moral principle to uphold him, rapidly ran through a career of extortion, speculation, and robbery, till he was fitted for the last great leap into the abyss of infamy, long before prepared for him by the arch tempter, who had early and effectually taught him to *despise economy*.

It is said that the British emissary sent to treat with Marion, finding him sheltered in the almost impenetrable fastnesses of a swamp, and with his entire suite of officers dining on a few roasted potatoes, reported the hopelessness of assailing an enemy so independent of the conveniences of life, and threw up his commission, which could be only employed in the futile efforts of tyranny against a self-denying patriotism and virtue.

But leaving examples historically conspicuous, let us look at the every-day avocations of life. Examine the success of business men, in this or any other large city. How few of those, *to the manor born*, achieve independence by their own exertions. Reckon up all the successful men, whether as importers, shippers, jobbers, or retailers; examine any class of mechanics or artisans; look into the professions of the pulpit and the bar, of surgery and medicine; of artists, authors, publishers, and schemers of every hue and description, and nineteen out of twenty, if not ninety-nine out of a hundred, will be found to have been bred in the country, and early trained to hardy enterprise, patient endurance, and the most rigid economy. These are the elements of future prosperity—the only bases of success. This is the law of our being—an ingrain principle of our nature, without the early and constant practice of which, future achievement is as hopeless as growth without food, or vitality without air; they are indeed so essential that they should be taught and enforced even where there is no present necessity for their practice. Teach the little girls to economise their dresses, their school books, their pin money, and even the paper rags; and the boys their own little personal matters, and those pertaining to the farm, as economy in feeding the animals, economy in saving and supplying manures, economy in the application of hand, ox and horse labor to their various and appropriate duties, and we will guarantee to every child of good sense and sterling moral principle, thus educated, the greatest measure of success attainable in the sphere, occupation, and circumstances with which they may be surrounded.

#### COWS HAVE POWER TO HOLD UP THEIR MILK.

It is known to many farmers that, when young cows first come in, when the calves are taken away, they will hold up their milk for a short time, and some will almost dry themselves before they will give it down. A few years ago, I bought a young cow which proved to be very wild, and when I took away her first calf, she would not give down her milk. I had heard

it remarked that putting a weight on a cow's back would make her give her milk down. I accordingly drove her into the stable, got a bushel of grain and put it on her back; but not being heavy enough, I took it off and put my elbows in the centre of her back, and bore on until she hollowed in her back.

While she was kept in this position, she had no power to hold up her milk; for it came down freely. After doing this a few times, and afterwards putting my hand on the back of the cow, it would give way, and she would immediately give down her milk.

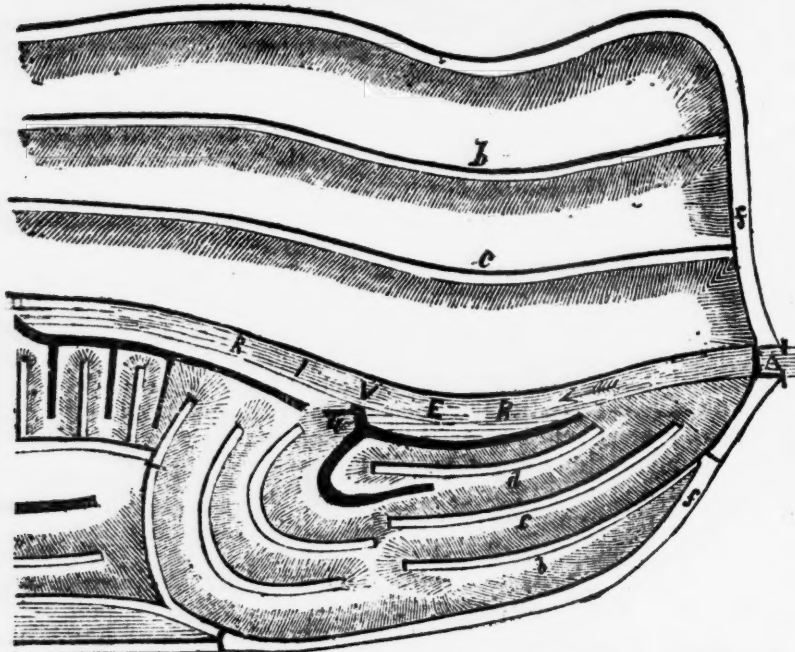
H. B. R.

Huntington, L. I., May, 1850.

IRRIGATION.—No. 1.



IRRIGATION—VERTICAL SECTION.—FIG. 60.



IRRIGATION—GROUND PLAN.—FIG. 61.

IRRIGATION, in a general sense, is applied to the watering of the earth by inundation, by sprinkling its surface, or moistening it by infiltration, by means of rills or streams to increase its productiveness. The term, however, is usually confined to the operation of causing water to flow over lands for nourishing plants.

The artificial watering of the earth, chiefly to produce increased crops of grass, has been in use from a very early period. Frequent allusion is made to it in the Old Testament, and on the veracity of historians, we are led to believe that it has been practised by the Chinese and other oriental nations, as well as by the Mexicans and Peruvians, from time immemorial. In

Italy, especially on the banks of the Po, the cultivators have certainly employed this process for a period previous to the days of Virgil, and it is still carried on with a zeal and care worthy of the art they practise. Cato, the earliest of the Roman writers upon agriculture, (150 years before Christ,) enjoined upon the Italian farmers "to make water meadows, if you have water, and if you have no water, have dry meadows." The directions of Columella, also, who wrote more than 1800 years ago, seem to have all the freshness about them of a modern age. He was the first who noticed the inferior nutrition afforded by the hay from water meadows. "Land," says he, "that is naturally rich,

and is in good heart, does not need to have water let over it; and it is better hay which nature, of its own accord, produces in a juicy soil, than what water draws from a soil that is overflowed. This, however, is a necessary practice when the poverty of the soil requires it; and a meadow may be formed either upon a stiff or free soil, though poor at the time water may be let over it; neither a low field, with hollows, nor a field broken with steep rising ground is proper; the former, because it retains the water collected in the hollows too long; the latter, because it makes the water run to quickly over it. A field, however, that has a moderate descent, may be made a meadow, whether it be rich, or so situated as to be watered; but the best situation is where the surface is smooth and the descent so gentle as to prevent either showers or the rivers that overflow it, remaining too long; and, on the other hand, to allow the water that comes over it quickly to glide off; therefore, if in any part of the field intended for the meadow, a pool of water should stand, it must be let off by draining; for the loss is equal either from too much water or too little grass."

The whole art of irrigation may be deduced from the three following simple rules:—

1. To free the land to be irrigated thoroughly of water, by draining.
2. To give a sufficient supply of water during all the time the plants are growing.
3. Never to allow the water to accumulate and remain sufficiently long on the land to stagnate.

The general principle of irrigation, however, may be described as the supplying of every portion of the surface of the ground with an abundance of water, and taking it rapidly off again. In many localities, the great difficulty in irrigation arises from the want of a supply of water; but even then, a partial irrigation may



be effected, which, although not perfect, will have its advantages. A small rill, which is often quite dry in summer, by judicious management, may still be made to improve a considerable portion of land. Its waters may be collected and allowed to accumulate in a pond, or reservoir, and let out occasionally, so that none be lost or run to waste. If there is water only at particular seasons of the year, and at a time when it would not be of much use to the land, it may be thus kept in ponds, and will lose none of its qualities by exposure to the air. If animal or vegetable matter, in a partial state of decomposition, be added to this water, it will much improve its quality, and by a proper distribution of it over the land, a great benefit will follow.

The supply of water must come from natural lakes and streams, or from artificial wells and ponds, in which it is collected in sufficient quantity to disperse itself over a given surface. As it must flow over the land, or in channels through it, the supply of water must be above the level of the land to be irrigated. This is one of the principal objects to be considered. If no water can be conducted to a reservoir above the level of the land, it cannot be self-irrigated; but there must also be a ready declivity, or descent, for the water to escape, and therefore the land must not be so low as the natural level of the final receptacle, whether it be a lake, river, or sea.

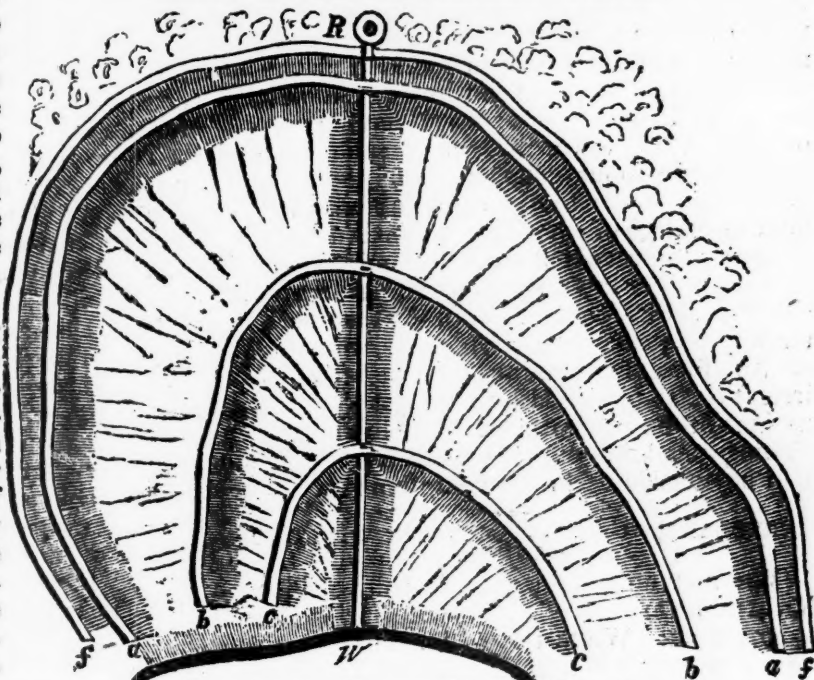
Along the banks of running streams, nature points out the declivity. A channel that receives the water at a point higher than that to which the stream flows, may be dug with a gentler declivity than that of the bed of the stream, and made to convey the water much higher along the sides of the valley, than the natural banks. It may thence be distributed so as to descend slowly, and water a considerable extent of ground on its way to rejoin the stream below the fall. This is by far the most common mode of irrigation, and the form, size, and direction of the channels are regulated by the nature of the surface and other circumstances, which vary in almost every situation. Let us suppose, for instance, that a river running with a rapid current between two distant hills, as denoted in Fig. 61. At the point A, of its course, a dam is constructed, and a portion of the water diverted into the feeders *f, f*, dug along the hillsides, with a slight declivity. The water in these canals will flow with less rapidity than that in the stream, but will maintain nearly the same level as that part of the river directly above the dam, at A. Thus the water may be carried over lands which are sit-

uated considerably above the bed of the stream, further down, and it is obvious that all the lands between these canals and the river, may be irrigated, if there be a sufficient supply of water.

With a given quantity of water at command, it may be conducted from these canals, or *feeders*, to smaller channels, lower down the sides of the valley, so as to irrigate the whole equally. These lower channels, *b, c, b, c, d*, should be nearly horizontal, in order that the water may overflow their sides, and be equally distributed over the land directly below them. Each channel should have a corresponding drain below it, running nearly parallel, to carry off the water; otherwise it might stop and stagnate. When the



IRRIGATION—VERTICAL SECTION.—FIG. 62.



IRRIGATION—GROUND PLAN.—FIG. 63.

water has run 20 or more feet, according to the declivity, over the land situated below the "feeder," or the channel which brings the water from above the dam, it should be collected in a drain to be carried off, unless it can be used to irrigate lands that lie still lower down, and finally discharge itself into the river from which it was taken at a lower point of its course.

Instances may occur, however, where there is not sufficient fall, or declivity, in the river or stream to enable the water to flow to any considerable elevation along the sides of the valley or hills. In such cases, if a fall of a few feet is at command, a portion of the stream can be elevated at a proper height and distance to irrigate

the intervening lands along the banks, by means of a hydraulic ram.

Again, there are other instances where broad dales or glens occur, through which descend brooks or rills, fed by living springs on the more elevated ground, that may be made to irrigate the parts of the declivity below. Or, if circumstances warrant the expense, in situations where no such streams are to be found, a well may be bored or sunk at or near the summit of the hill, the water raised by wind, steam or animal power, and distributed by means of a series of horizontal channels, situated one below the other, in a manner that the second may collect the water the first or uppermost has supplied, and in turn becomes a feeder to the third, and so on to the fourth, thus irrigating the lower parts of the declivity, until the last discharges itself into a river or waste ditch, and is of no further use.

In illustration of what is stated above, let *R*, Fig. 63, denote a reservoir or well, situated on elevated ground, at a convenient point on the side of a dale or glen; *f, f*, feeders, running horizontally around the upper part of the declivity, as far as the nature of the surface will allow; *a, b, c*, horizontal channels, situated one below the other, for catching the water, as it flows over the whole length of their margins, or sides, across the terraces or inclined planes into the "waste ditch," *w*, at the lowermost part of the glen; *R, w*, a "water way," having "stops," or gates, at the lower margin of each channel, for the expeditious conveyance of the water to every part of the the ground, and also for the final discharge of what water might remain in the channels to prevent it from becoming stagnant.

With proper attention to levelling or grading the slopes, the construction of the channels, water ways, aqueducts, gates, hatches, waste drains, &c., the foregoing embrace the general modes of irrigation, as practised by the most enlightened nations of the present day. The manner of enriching meadows and rice fields, by inundation, will be considered in our next number.

#### RECLAIMING WORN-OUT LANDS WITHOUT MANURE.

WE met an old friend, a few days since, on his farm, in one of the poorest portions of Connecticut. We last saw him there 20 years ago, a young man, commencing his farming career on some 150 acres of land, most of which was thoroughly worn out. We found him with about 300 additional acres of land, all of which had been added to his original 150, by his own earnings. The whole has been brought from its former condition of sterility to a fair productiveness, by his skillful management, without the aid of foreign manures. To our inquiry how he had effected so great a change, his reply was, "I have fed out the crops on the fields where grown." He had not sold off all his hay and grain, and thus kept his land barren; but, like a liberal and wise landlord, he had returned to his fields what legitimately belonged to them, and consequently augmented fertility has been the result.

#### CHEAP LANDS ON LONG ISLAND.

WE neglected to call the attention of our readers to an article that appeared upon the cover of the *Agriculturist* last month, by Dr. Peck, in relation to some of the unoccupied lands of Long Island. We have heretofore spoken upon this subject, and shall probably advert to it occasionally hereafter.

Why emigrants should all be sent off a thousand miles to the west, when there is so much vacant land within a few hours' sail or ride of New York, is more than any one, we think, can answer. Both in this state and New Jersey, within from fifteen to fifty miles of this city, land can be bought for ten dollars an acre. It is true, the soil is light; but, by the application of marl, guano, and other manures, it yields large crops, which amply remunerate the intelligent cultivators for their labors.

THE COW PEA *vs.* CLOVER.—A writer in one of our late exchanges, after eulogising the cow pea very highly, caps the climax as follows:—"It is found that the cow pea answers every purpose, in southern culture that the clover does at the north. *As food for the human family, it is pre-eminently superior.*" No doubt of it. Since when, were the human family turned out to grass? We only know of one. We have heard of "pigs in clover," but never before understood it was considered valuable as "food for the human family."

There is no doubt in our minds, that the cow pea is of equal value to the south as a fertiliser, and food for stock, as the clover is at the north. The great wonder is, that it is not more generally cultivated.

HOW HORSES GET THE COLIC.—A boy, returning from work, with heated and sweating horses, to save himself trouble, allows them to drink copiously at some pool or stream he passes. Suddenly, one or more of the horses exhibit symptoms of gripe, suddenly lies down, rolls about, looks at his sides, rises up, seems relieved, and again speedily relapses. The sudden application of the cold water has produced spasms in the bowels, through which it has passed. This is neglected, or perhaps gin or whiskey, aided by pepper, is administered as a remedy, and severe and general inflammation of the bowels is the result; this is mistaken for another attack, and again the poison is administered, and the inflammation increased, and death follows.

Prevention.—See that the horses are walked home. A horse never ought to be rode nor driven out of a walk or slow trot, for a full half hour after eating or drinking.

CAST-IRON PIG TROUGHS.—In these days of iron, when it is substituted for wood so universally, we would like to know if cast-iron troughs have ever been used in this country for feeding hogs. They are quite common in Great Britain, and we have no doubt, if once introduced into the United States, they would be highly approved.



## A CHAPTER ON VARIOUS SUBJECTS.

As I receive the different numbers of your journal, from month to month, I am reminded of a story once told me by a friend on the Mississippi River, of a Kentuckian, who, while travelling along a lonely road on horseback, came suddenly to a cross road, where he saw about a dozen men engaged in a promiscuous "scrimmage;" and, after trying a few minutes to find out what was going on, he remarked to the crowd, "As this seems to be a free fight, I'll have a hand in it," and jumped into the midst of them, hitting right and left, without any further ceremony.

As you have reminded your subscribers that the Agriculturist is a free field, I shall have something to say from time to time, upon what I may note in its pages, provided you think your columns cannot be more profitably occupied.

The amount of green corn fodder grown in England, stated in your January number, as being questionable, is not so very much beyond the amount raised in South Carolina, (see Allen's Farm Book, p. 154,) as to cause any reasonable doubt of its truth. The time, I think, cannot be far off, when this grain will be extensively grown in England, for soiling.

The species of silkworm to which you allude in your March number may be useful for the coarser kinds of silk fabrics, such as handkerchiefs, &c.; but they never will answer for ladies' dresses, the silk resembling tow, more than anything else. If any one here, seems disposed to go into the business, he need not send to New Orleans, as all the species quoted, (except *Bombyx laocoon*, which is from Barbary,) are very abundant about New York, living on the oak, sassafras, &c. We have, also, the *Bombyx regalis*, *B. imperialis*, and many more; but the larvæ are as long as the finger, very repulsive in their appearance, and the cocoons as large as a hen's egg. They may answer for some purposes, but never can compete with the common silkworm, (*Bombyx mori*), for ordinary silk fabrics.

I would like to see the person who put the article in the same number, about Jerusalem artichokes. I have been in the habit for some years of keeping a large number of fowls, and, in the winter, feeding them on boiled potatoes and artichokes. After boiling, the water was always poured off into a pail, a few handfuls of bran thrown into it, and then given to the cow. She seemed to relish it, and as she has had the same for three years, it must be a *very slow poison indeed*. The root, if well boiled, appears to be as good as the potato for cattle; but never having fed it raw, I cannot say how they would relish it. It is a most valuable root, and too much overlooked, but is almost impossible to eradicate from the soil, when it has got a good footing.

The article on the cause of the "yellows" in the peach, in the May number, is interesting, but erroneous as to its conclusions, for several reasons. One is, that the disease has never been recognised in Europe, notwithstanding the

quantities of American peach trees that have been sent there, nor is it now known scarcely, on the rich lands of the west, nor was it known in this neighborhood twenty or thirty years ago; whereas, every naturalist knows that the different species of xylophagous or wood-eating insects are found wherever the peculiar tree which they inhabit, is found, without regard to its location. Thus, I have met with the same species of *bostrichus*, *hylurgus*, &c., in the pine woods of Vermont, Virginia, Minnesota, and I have received them from Oregon and California. Considerable observation has led me to believe that the disease is a constitutional taint, arising from poor soil, the want of pruning, and good cultivation, for in no other way can we account for the disease being unknown in Europe. If the *tormicus* is the cause, it would certainly have been introduced long ago, and become as destructive there, as here.

I cannot drop this subject without expressing a hope that we shall often hear from Miss Morris, as it is only by close investigation, that we can ascertain the causes of many of the mysterious diseases of fruit trees, and vegetables, and every laborer in the cause, increases the prospect of success, especially when the investigator brings to her aid, the assistance of a good knowledge of entomology.

The article on the *baridius* in the previous number is quite an addition to our stock of entomological knowledge, as the perfect insects are generally found in marshy places, on flowers, &c., and not supposed to be injurious to us.

As I must have a "hit" at the "Captain," let me ask him whether he "guessed" M. H. Morris to be the signature of a lady. Hold up your head, and speak like a man Captain. You are not backward in poking your jokes at everybody, and must not take offence if you get some in return.

AGRICOLA.

Elizabethtown, N. J., June, 1850.

## WIRE FENCE.

ONE of the correspondents of the *Prairie Farmer* states that one ton of No. 8 wire costs \$120 in New York, and will make a mile and a quarter of fence, sufficient against cattle and horses, and that he made fence of this sort at LaVaca, Texas, for \$200 a mile. He does not state what kind of posts he used. But if he made a fence for 62½ cents a rod, or less than four cents a foot, sufficient to stop cattle, there is no difficulty in fencing the great western prairies.

It is calculated that wire one eighth of an inch diameter, drawn tight, will sustain 750 lbs.

To prevent animals from jumping or running against wire fences, it is recommended to paint the whole white. Some persons put a wooden strip on top, which effectually prevents animals from unwittingly running against it, which is the greatest danger it is in, of being broken. The wire should be annealed, and of course will last longer if oiled or painted, and so arranged in the fence, by some simple contrivance, as to keep tight. Perhaps the plan designed in our last volume, to overcome contraction and expansion, is as good as any other.

## EXHAUSTING PROPERTIES OF TOBACCO.

OUR Maryland and Virginia friends will not be surprised to learn, from the rapid exhaustion of their tobacco fields, that this paltry weed requires more mineral manures, (salts,) to supply itself, than any other grown. The proportion abstracted is enormous, and shows conclusively, the necessity of constant and heavy manuring with *special manures*, to sustain the highest fertility of the land. By special manures, we mean such as are designed by their composition, to supply the appropriate food of plants, in the requisite proportions.

We have, for instance, in 800 lbs. of tobacco leaves taken from a field, 160 lbs. of mineral ingredients, (ash,) of which the soil is absolutely robbed, and which it has no means of again acquiring, but by direct application. This amounts to 20 per cent., or one fifth of the entire crop, and is composed, according to the analysis of Professor Johnston, of

Potash,	12.14
Soda,	0.07
Lime,	45.90
Magnesia,	13.09
Chloride of sodium,	3.49
Chloride of potassium,	3.98
Phosphate of iron,	5.48
Phosphate of lime,	1.49
Sulphate of lime,	6.35
Silica,	8.01
	100.00

To supply these materials, ordinary farm-yard manure is insufficient; so, too, is lime or plaster or salt or any one article. It needs a combination of several, which are in a great measure to be found in ashes, combined with the ordinary manure of the farm yard. But if an application of special manures is sought, they will be appropriately found in the following proportions of the subjoined materials:—

Bone dust, sulphuric acid,	23 lbs.
Carbonate of potash, (dry,)	31 lbs.
Carbonate of soda, (dry,)	5 lbs.
do        magnesia,	25 lbs.
do        lime, (chalk,)	60 lbs.
	144 lbs.

## ANALYSIS OF COPROLITES—FOSSIL OR MINERAL GUANO—ITS VALUE FOR AGRICULTURAL PURPOSES.

This substance, existing in layers of rock or stone, and generally associated with others of various composition and texture; or sometimes as pebbles or coarse gravel, and more frequently mixed with other substances, forming marl, is beginning to be fully appreciated by the agricultural world. An analysis by T. J. Herepath gives, of water, 3.4; silica, 13.24; carbonate of lime, 28.4; *phosphate of lime, magnesia, iron, &c.*, 53.7, (equivalent to phosphoric acid, 26.6); sulphate of lime, 0.7, in every 100 parts.

This shows an invaluable manure, and about as rich in phosphate and carbonate of lime as the recent bones of the ox, when perfectly dry and deprived of their fat. These yield phos-

phate of lime, 56.75; phosphate of magnesia, 3.25, equivalent to phosphoric acid, 26.7.

English farmers are procuring and applying coprolites in large quantities, wherever obtainable. We have no doubt, valuable deposits of this mineral manure will be found in various localities in the United States, whenever our legislatures find time and money to train up and employ throughout the country, full and efficient corps of enterprising young geologists. If one tenth, or even one fiftieth the amount of men and money were devoted to this object, which are now employed in the arsenals of Springfield and Harper's Ferry, the U. S. naval depôts, and dock yards, in forts, camps, vessels of war, &c., we should soon have our fields groaning under their ripened harvests. But the time for the supremacy of sense and humanity—the higher destiny of our race, is not yet. We patiently bide our time, when Flora, Ceres, and Pomona shall bury Mars as deep under ground as many of the coprolites now lie.

This mineral is supposed to be the excretions of carnivorous reptiles, resembling our crocodile, myriads of which once occupied the chaotic waste of mingled mud and water, anterior to the creation of man, but which for ages have probably been extinct.

The presence of this decomposed phosphate is undoubtedly the cause of the great fertility of many portions of our western country, the valleys of the two Miamis, in Ohio, and those rich hemp, corn and grass-producing regions of Kentucky and elsewhere.

## VALUE OF BONES.

It is sometimes said, that pasturing invariably improves the soil. This is not true, though it frequently does partially restore it, after severe cropping, to the extent, at least, of enabling it to bear better crops than the last taken from it. But that one or more of its fertilising ingredients may be abstracted, even to the extent of a considerable degree of impoverishment, is conclusively shown in the extensive grazing fields of Cheshire, England.

This is a favorite dairy region, which has given an enviable character to the cheese that bears its name. It has, for hundreds of years, been devoted to the pasturage of cows, whose milk has been converted into cheese, and sent to a distant market. Few persons would suspect, that the daily removal of those portions of the soil convertible into milk, must be felt in the soil, even after the lapse of centuries. Yet, the phosphate of lime, of which milk contains considerable proportions, is abstracted in such quantities, that the productiveness of those rich feeding grounds have been materially lessened.

The comparatively recent application of bones as manure, has been made on some of these fields, and with the most astonishing success. Professor Johnston says, that pastures which before this application, rented at 5s. per acre, have since paid 40s., and left the tenant ample remuneration for his labor. It is thus that the oft-derided discoveries of science, so richly repay their advocates.



## REVIEW OF THE MAY NUMBER OF THE AGRICULTURIST.

**Drilled Turnips.**—The same increase of crop may be seen in almost every kind of farm produce. Any large wheat grower would get pay for a drilling machine every year. Just go into the field at harvest time, and observe how even is the growth of drilled grain; all the stalks about the same height, with long, full heads; then contrast this with that sown broadcast, and I am certain that any man whose brains are not broadcast, will be convinced of the advantage of drilling wheat.

**Hog Manure.**—No doubt of it. There are a good many persons just beginning to find out that the manure made by a pen of hogs, well provided with materials to work upon, is worth more than the feed; but a great many other persons are just as ignorant of the advantage of keeping hogs in close confinement as the hogs themselves. They believe in "enlarged liberty" of all animals, and for that of swine in particular—they seem to have a sort of fellow feeling.

**The Best Rotation of Crops** is that which will produce the most profitable result; but that recommended by Judge Beatty will not suit all latitudes, although the deep plowing will suit every climate and soil, unless it is one of light sand, with a cold, sandy subsoil. Corn land should always be plowed deep before planting, and not during the growth of the crop, though the oftener the surface is stirred, the better it will produce.

**Value of Lime, &c.**—This is an admirable article. You give the difference in value between magnesian and other limestone, but as farmers most usually purchase the lime after it is burned, how are they to discriminate? In using oyster-shell lime, it should be recollected that a bushel of that is of less weight than a bushel of stone lime, and perhaps that is one reason why some have thought the other most valuable. It is certain, as a general rule, that magnesian lime, such, for instance, as that burned upon the banks of the Hudson, is the most valuable for agricultural purposes, and it requires a less quantity to produce the same effect.

Oyster-shell lime is much used in some places, and I am not satisfied that burning them does not consume the animal matter contained in new shells, to a degree that will balance any benefit obtained by burning; so that if they can be ground cheaper than burned, why, grind away. Only get the lime upon the land in some shape, and you will get benefit from it, I assure you, upon any soil not already charged with calcareous matter. But be careful and not make the mistake that hundreds of others have, by considering lime as a general or adequate manure of itself, without the aid of additional fertilisers. But it is the best thing in the world to assist you to get the full value of manure, or any inert vegetable matter in the soil. You say it is important that lime should be kept near the surface. But how is this to be done? If applied to the surface, of course it will be turned down at the next plowing. The best way to

apply lime, is to harrow it in upon wheat, at the rate of 40 or 50 bushels per acre, at first, and 30 bushels at the third, sixth and ninth years after.

**A Valuable Southern Grass.**—Glad to hear that any grass is considered valuable in the south. When I used to visit the plantations, there was one continuous warfare against everything that bore the name of grass.

**The Air-Syphon Ventilator.**—Let us have less theory and more practice. If it is so valuable, let it be tested fully, and results published, so that we may all follow suit. It is a legitimate subject for a premium at the "American Institute," unless its managers are too much absorbed in promoting the growth of big squashes, and turnips, or developing the latent energies of some manufacturer of fire crackers.

**Discovery of the Cause of the Yellows in Peach Trees.**—This is an article particularly commended to that class of persons who ridicule the idea of science as applied to agriculture. Here the labor of a scientific mind has been applied to make a most important discovery for the benefit of every one engaged in agricultural pursuits.

**Decayed Grain Injurious to Stock.**—Mouldy or damaged grain is probably more dangerous to feed to horses than any other animal, and least so to swine; their stomachs being constituted so much like human ones that they are able to digest almost as much miserable stuff as men do.

**Merino Sheep in Virginia.**—And why not Merino sheep in Virginia as well as anywhere else in the United States? Land is cheap, and Yankee farming will make it fertile; and there is as good a climate for sheep and shepherds, as could be desired.

**Profits of Farming.**—Look at this again, everybody, and everybody's neighbor, and if you don't feel ashamed of your own profits, I shall feel ashamed for you.

**Imported Shorthorns.**—Another bull fight. What will you bet which whips? Where is friend Sotham. I wish he would shove in the long-horns, by way of diversion.

**Management of Animals.**—First learn to manage yourself. The intractable temper is oftener in the man than in the brute, and he is often the greater brute of the two.

**Treatment of Male Breeders.**—A very short article upon a subject that has more need of discussion than almost any other in this journal. And why not speak out upon this subject? If the world is too fastidious to relish articles upon a subject of such vital importance, it is time their manners are mended. And why not "work male breeders?" Are the children of working men born with less vigor in their constitution, than those of the "pampered few?" The fact should never be lost sight of by man nor beast, that "like begets like," and that a little scrawny bull, boar, buck, or colt, (I came very near writing boy too,) will impress the image of himself upon his progeny. I wish some competent person would write a book upon this subject, and call things by their right names. It might

do this world good just now, to attend to the improvement and proper breeding and rearing of children as well as horses and cattle.

*Home-Made Guano* is a wrong title to a good article. It should have been headed, "simple directions for keeping a very necessary appendage to a decent household decent." It is too true that, as a people, we are ridiculously fastidious and disgustingly indecent about this really important matter.

*Composition of Sprats.*—The title of this article should have been, "value of fish for manure." The writer suggests a method of saving them when caught in great abundance. I suggest a better method. That is, to dry them, which could be done, probably, by steam, expeditiously and cheap; so that they could be kept and hauled into the country a considerable distance from the sea. When perfectly freed from all water, if they were ground into powder, the substance might be called "home-made guano," and would be what no other home-made imitation is, but something like the real article in value.

*Thick and Thin Seeding.*—I have nothing to do with the question, whether three, four, five, six, or twelve pecks to the acre is the most preferable quantity; but I have a word to say about one statement in this article. Pray, Mr. Cone, what part of Michigan produces "fifty bushels of wheat per acre?" If it is in Oakland county, I would like to know the particular lot, section, township, and range, and year it was done.

*Cows are often Spoiled by Lazy Careless Milkers.*—This sentence out to be printed on every milk pail in the land. Perhaps it would be better to say *always* spoiled.

*Farm Fences.*—This sensible article is worthy of re-perusal, for it is upon a subject more interesting to the American people than any political question now before them. At the rate of increase of our population, now going on, the time is, comparatively with the age of timber trees, very short, when the space occupied by them will be required for cultivation, and large tracts cannot be kept as at present, merely to furnish fencing stuff for the cultivated fields. What is to be the substitute? As shown by this article under consideration, stone can only be used to a very limited extent, and in districts where they abound; such a fence is a very costly one, and unless made in the very best manner, it is not durable, being so easily thrown down by frost. "Sod fences" are indeed, "desperate efforts," and utterly worthless. "For partly the same reasons, hedges have not succeeded," and for wholly the same reasons, they never will. All the hedges that have been tried in this country, so far as I can gather from the few that I have seen, and all that I have read of what others have seen, are of slow growth, and require fencing while growing; and need continually, much labor to keep them in order. They are liable to die and leave gaps, and never make a good fence against cattle, and are no fence against hogs. Like all other kinds of fence, wire, perhaps, excepted, they occupy

much valuable ground. What, then, is to be the fencing material? Shall it be iron? or will farmers eventually learn a little good, strong, iron sense, and begin to reason among themselves about the enormous amount of tax, self-levied upon themselves, for the "free and independent" privilege of letting a few miserable cattle and mischievous hogs, run wild upon the public highways? I wish they could see France and Germany, and parts of England, how beautifully and economically they are cultivated without fences.

*Railway or Endless-Chain Horse Power.*—This is an article giving just commendation to a good machine, not quite so much of the *multum-in-parvo*, (much in little,) order as it would have been if the three columns had been compressed into one.

*The Great Horned Owl.*—Is it of the "short-horned" or "longhorned" family of cattle? I suppose the picture is introduced to show your readers "a new and improved breed of domestic poultry." "Hence it may be regarded as an extremely hardy bird," and I should suppose if judiciously crossed, upon the great Shanghae "rooster," or "crower," a new breed of "biddies" might be introduced, suitable for the Boston market.

*Trimming the Ears of Horses.*—Æsop tells a story of a fox that had a little trimming done in a trap, and then wanted the whole family to be trimmed in the same way. Carrying out the same idea, I would vote for a wholesome horse law, for serving every fellow that singed the hair out of horses ears, or mutilated their tails, exactly in the same way. To this proposition, no horse would say "neigh."

*Successful Farming.*—A little item in the "Editor's Table," under this caption, mentions a most wonderful result upon "seven acres of miserable, poor, sandy land," that induces me to ask that gentleman to write out a detailed account of the manner and cost of making such a great change upon a worthless spot, that we might determine whether the vast tracts of land lying within a few hours of the city of New York, utterly worthless and unproductive, could be improved profitably, to the condition of that mentioned, and make happy homes for thousands.

*Profits of Dogs.*—An outrageous libel. But every dog must have his day, and poor old Towzer has had his, so "turn him out, he has no friends," except

REVIEWER.

#### MICHIGAN LANDS.

THE rich lands of Michigan are being worn out. Our crops from year to year are growing less, especially wheat, the annual product of which is not one half so much per acre as it was when the land was first cleared; and, instead of attributing the failure to the true cause, not only the farmers themselves, but the editor of the Michigan Farmer charges it to the seasons.

When the farmers are told that the soil is exhausted of all the food for the wheat plant, they say it cannot be; for the straw grows as large as ever, but the grain shrinks; so it must be



the seasons. They cannot be made to believe but that the food for the growth of the straw and growth and perfection of the berry, are the same.

I have a farm containing 80 acres of improved land, which I have cleared with my own hands. It was heavy timbered land—soil clayey loam, and in farming it after the skinning system a few years, I found it wearing out; but by deepening the plowing from five or six inches to ten or twelve, on the first trial, the product was increased from 15 to 49 bushels of wheat per acre. The same results have followed subsequent practice.

The income of my farm, for the last year, was \$1,134; the farm expenses and those of my family were \$700 more, leaving a balance of \$434, besides the improvements. I. C.

#### MANURES.—No. 2.

*Sea Muck.*—We were much amused a year since, at the unfathomable discoveries reported from the Irish bogs. These were deemed to be of such great magnitude, as to have elicited quite a discussion in parliament between some of its high officials. The question was agitated as to the formation of joint-stock companies, whose results were to rival the recently-found gold minds of California.

Naptha, petroleum, olein, stearin, spermaceti, and various medicinal and other products of great utility in the arts, were to be spontaneously extracted from these long-neglected mines. Well, a year has since come and gone, and the bogs are just where O'Connell's Irish parliament is—still deep in the mire.

But, after all the "Bullicisms" connected with this project, the olein, stearin, &c., are still there—the mode of extracting them is the only thing wrong about it. If the "pizentry" would but first apply these accumulated stores of vegetable matter to the soil, the crops and animals feeding upon them, would, either by themselves or their *exchangeabilities*, supply all the alledged products, and a vast many more besides. Just the same value exists in the vast beds of sea muck already formed and daily forming over almost every part of the world. There is enough of these deposits in New Jersey, to fertilise no inconsiderable portion of its hungry and impoverished uplands. The same is true of most of our sea-washed coasts. Millions of wealth lie buried in every marsh and stagnant pool, which needs but half the capital and energy devoted to the exhumation of California gold, to develop equal wealth and with far more certainty.

There are various ways of compounding and applying sea or swamp muck to the soil. The simplest way, and one as generally profitable as any other, unless other fertilising matters can be made to spend better by the addition, is by throwing it up in heaps for partial drainage and decomposition before applying; or if the land be a hungry, silicious (sandy or gravelly) soil, apply it as soon as taken out of its bed, when sufficiently dried for economical removal. The sand will seize upon this new food with great

avidity, and will rapidly decompose, and convert it into vegetable manure. The salt in all such as is exposed to the ocean tides, will add materially to its value for manure.

If the application is to be made to clays or adhesive lands, then the muck should first undergo partial decomposition. To effect this, several modes may be adopted. It may be most advantageously thrown into the cattle yards and pens, or privies, to absorb and become incorporated with the urine and droppings; or it may receive the wash of the house, the road side, the offal from slaughter houses, melters' shops, tanneries, woolen manufactories, and the like. In this way, it becomes decomposed and every way fitted for the greatest utility; but it also acts as an absorbent, or a strong box to hoard those soluble or volatile matters that would escape into adjacent rivulets, or evaporate in the air. The value of this material, when applied in this way, is incalculable, and it should always be used to the fullest extent of its useful agency.

But when at remote distances from the cattle yards, or it is wanted in quantities much beyond what can be prepared in this way, we have found lime, (unslacked, or quicklime,) to be the most efficient decomposer of these muck beds. They are frequently filled with hard, fibrous, wiry roots and stalks, which might lie undecomposed for years in many compact soils. But when brought into contact with lime, all these, and similar matters are readily converted into finely-divided manure, which is capable, at once, of yielding its nutritious substance to the growing plant. This mixture may then be added to other manures or applied on any soils or crops with the utmost benefit.

#### DWELLING HOUSES OF THE NORTH AND SOUTH COMPARED.

THE construction of dwelling houses, a subject which really involves the comfort of the occupants for life, is often undertaken with as little consideration as building a rail fence. Notwithstanding a vast amount invested, it really appears in many cases, as though the builder never had a single idea that he was building for the accommodation of a family. The site, too, is often as illy considered as the plan of the building.

In almost all the northern states, the sole object seems to be, to get on the road. At the south, a better taste prevails, and the owner seeks his building site far away from any public highway; but in his building plans, he is as far behind the north as he is in advance in selecting beautiful sites, free from the dust and annoyances of a common highway.

#### ROUGH-HAIRED TERRIERS.

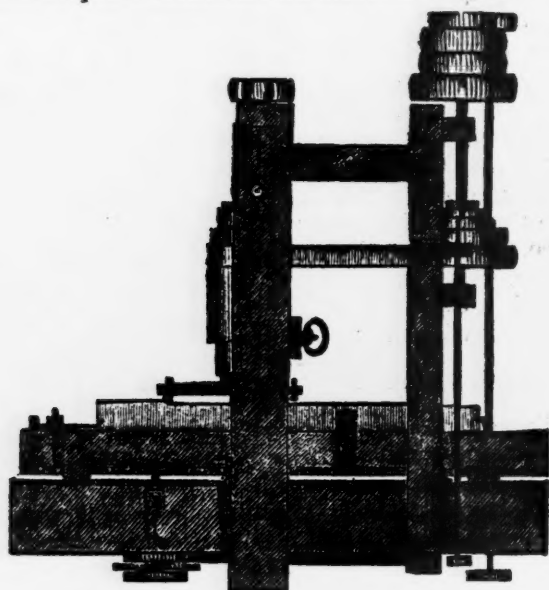
THESE are really the most useful of all the canine race. We often hear farmers complaining of rats, and in nine cases out of ten, when we inquire why they don't keep terriers, we are answered with a look of surprise and a "well, I guess they are not of much account, are they?" At the same time, probably, you will see three or four great lazy, worthless curs prowling

about the house, which we "guess are not much account;" but we know that the real wire-haired terrier is worth his weight in gold, real California gold, upon any farm that is infested with these destructive and filthy vermin, rats.

The ingenuity and perseverance of these dogs in hunting and killing their prey, is such as to convey to us the idea of a very elevated degree of intellect. They are also very useful as house watch dogs, and possess a kind and pleasant disposition, and most untiring industry in their line of usefulness. We recommend our readers to provide themselves with terriers, and kill off some of their miserable mongrel curs.

#### PLANING MACHINE.

THIS machine is valuable for planing all lengths, widths, and thicknesses of joists, plank, and boards, various kinds of mill work, and other parts of work for machinery, plows, &c., &c. It will plane hard or soft wood equally well and with great rapidity. They have been used for many years with entire success through various parts of the Union. There are several sizes to plane different widths and lengths.



PLANING MACHINE.—FIG. 64.

#### VARIETIES OF THE ANIMAL AND VEGETABLE CREATION.

THE researches of naturalists are day by day, adding to our stock of reliable information on the interesting subject of the numbers, varieties, and economy of the animal creation. Ray, who wrote in 1690, set down the amount of *beasts*, as he called them, including *serpents*, at 150; saying, "not many of any considerable bigness in the known regions of the world had escaped the cognizance of the curious." Buffon said at a later date, "All the four-footed animals may be reduced to 250 pairs, and the birds to a still smaller number." Instead of the 150 of Ray, we have over 1,500; and the 500 of Buffon exceed 9,500 individual species, over 8,000 being birds.

Of reptiles, there are about 1,500 already known. Neither toads, snakes, nor ophidian reptiles of any kind are found, it is said, in Ireland.

Fishes are of much more numerous variety than any other vertebrate animal, exceeding 8,000, and almost daily accessions are making to this class.

Of the invertebrate, the varieties are almost countless. In one class of these, the insects, more than 100,000 species have been preserved in cabinets, and more than 200,000 are known to naturalists. The actual number, probably, exceeds half a million!

Besides these, we have the moluscou classes, shell fish, cuttle fish, snails, &c.; the articulated, such as leeches, lobsters, crabs, earth worms, and the like; the radiate, such as the star fish, polypi, coral, madrepores, sponges, &c.

How creation expands upon intelligent research! Whether viewed by the telescope or microscope, we behold increasing worlds, beyond our natural vision. The former brings successive strata of nebulae to view, each formed of myriads of distant suns, the probable centres of systems like our own; the latter finds successive myriads of insects, constantly decreasing in magnitude. How innumerable the yet unexplored varieties of these may prove, future naturalists may approximately determine, but we can hardly appreciate.

Humboldt, only a few years since, reckoned the number of plants, 44,000; but later observers carry up the number of ascertained varieties to 100,000. That this is only the commencement of their enumeration, must be apparent to any observing man, who considers the extent of countries yet unexplored, the superficial examination of those already known, and the countless varieties of minute or animalcular plants. A moment's reflection will thus convince us, that the science of the naturalist, equally with that of the chemist and geologist, is yet only in its infancy.

**TAKE TIME BY THE FORELOCK.**—Neighbor, your field is all growing up to bushes; it takes you longer to mow around them, than it would to mow over twice the ground they occupy. Why don't you cut them? "Well, that ought to be done, I know, but somehow or other, I can never get about it." That is the way of a great many farmers. There are rocks, bushes, and stumps that obstruct their labors, and should be removed. There is a swamp that should be drained. There is an old brush fence that should be replaced by a stone wall, rail or wire fence. There should be some gates made, and a great many things ought to be done; but "somehow or other, we can't get about it. All that is wanting is a little resolution to commence the work, and energy to complete it, and the improvements are made.

**HUSSEY'S MOWING MACHINE.**—Late improvements, made by the inventor, render this machine highly worthy the attention of farmers. Let a number of neighbors club together and buy one the present season, and if found to answer the purpose, as well as we believe it will, they will each be ready to order one another season.



## EXPENSIVE MANURING.

It is an almost universal practice in the southern parts of Virginia and North Carolina, to scrape out the fence corners of old fields, and in moving or rebuilding, to rake up all the roots, weeds, leaves, grass, and soil of the fence row, and haul them on the land for manure. Two thirds of the mass is nothing but sand, and two thirds of the other third is soil, no better than that of the land upon which it is to be applied. It is true that these fence scrapings are a little better than nothing; but still, not worth the labor, and are the most expensive manure ever used.

If the hands, to say nothing about the team, were put to work at 25 cents a-day and that money laid out in Peruvian guano, and applied in place of this fence-row manure, it would produce four times the effect. And yet, although this statement is wholly true, we do not expect it will be believed, nor that one in a hundred will try the experiment to prove its truth, so obstinately are farmers wedded to old habits, however erroneous.

## NEW SAW MILL.

A MORMON, at the west, has invented a new saw mill, which is propelled by the weight of the log to be sawed. The saw is so made as to require no setting, and we presume runs in such a manner as to file itself. It is all placed on wheels, which are undoubtedly carried forward, (to any part of the woods, where the best saw logs are to be found,) by the action of the machine.

This is a good deal like a new potato-raising system, broached a year or two ago, in which the seed was placed on a rock, and covered with fresh straw. The advantages were, no plowing nor cultivating, and clean planting and digging. What the yield was, is not stated.

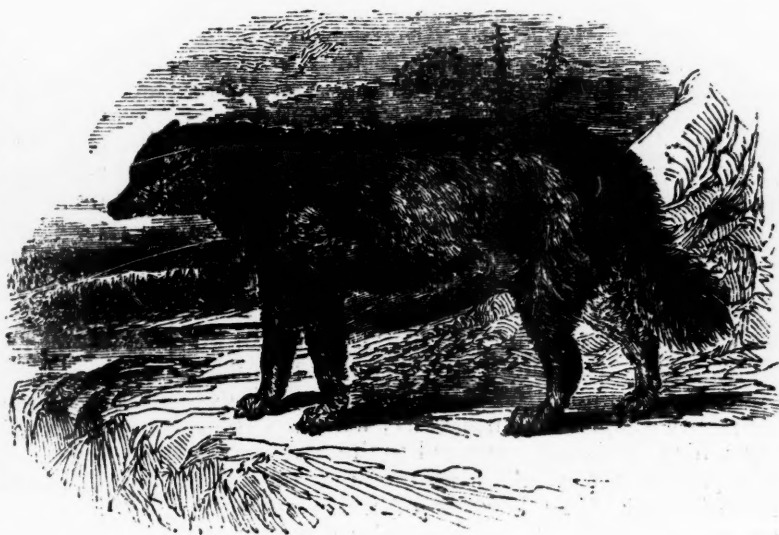
The only match for these, and several other important improvements we have seen, is the modern society for social advancement, where the committees are overrun with comforts, happiness, and wealth; where there is neither hard nor dirty work to do; where, in short, everything belongs to everybody, and all have just what they want done for them, without doing anything themselves.

CRANBERRIES.—Who has raised this delicious fruit with success, in the neighborhood of New York? We don't think beavers, muskrats, nor the fox and lynx tribes, can be reared with much profit for their skins, as was once attempted; but we see no reason why cranberries may not be raised as advantageously as any of our cultivated fruits. There are thousands of acres of worthless swamps within a hundred miles of the city, that might be made to produce a handsome income if set in cranberries. Who will begin?

## THE AMERICAN BLACK WOLF.

THE American black wolf, (*Canis nubilus*), although less common than the other varieties, is considered more dangerous and ferocious, sometimes making sad havoc among sheep and lambs. It is found more or less abundant throughout the wooded districts of the Canadas, the northern states, and of the entire Alleghany range, to their termination in Georgia.

The length of this animal is about five feet, eight inches, of which the tail occupies one foot, eight inches; the height at the fore shoulders, about two feet, three inches, and the girth of body about two feet, seven inches. The general color of the body is brownish-black, somewhat mottled with darker shades; the belly, much lighter, with a broad stripe of black, undefined at the edges, running up the breast; the back, blackish, very slightly mottled with white, caused by the intermixture of different hairs; the body is covered with a soft, thick down, light-grey at the roots, and brownish-grey at the end; besides this fur, there is likewise a longer hair which is the general color of the animal; this



THE BLACK WOLF.—FIG. 65.

hair on the back is white at the roots, then black, then pure white, then black again at the tip, giving a speckled appearance to the back. The tail is large and bushy; the hair long, loose, and nearly black, as also is the throat and breast. The feet and legs are black; the hair on the front of the legs close, bristly, and shining. The head is black with the face covered with short, close hair; the nose pointed, small, and black; the ears short, pointed, and upright.

The black wolf is much stronger than a dog of the same size, and his mode of biting is very different from that of a dog. Instead of retaining his hold, like a dog, when he seizes his enemy, he bites by repeated snaps, given, however, with great force, often lacerating the flesh a foot or more to each jerk. Like all carnivorous animals, his thirst for blood is irresistible, and he often kills his victim without de-

vouring the carcass, drinking the blood, the only part agreeable to his palate. When pressed with hunger, he destroys every other creature he can master, and it is believed that, during the year, he consumes, at least, thirty times his own weight of animal food, which, in cultivated countries, renders his injurious character more apparent, from the large number of domestic animals he necessarily must slay. In winter, when the ground is covered with snow, and he finds his prey to be scarce in his natural haunts, he becomes exceedingly bold, intrudes into the sheep folds and pigsties, and even into villages or populous towns, in quest of food.

In several states of the Union, laws have been enacted and bounties offered for the destruction of wolves, varying in amount according to the age and sex of those killed.

Hence, when considerable havoc has been made among sheep and calves, a general turnout of a neighborhood is summoned, who proceed to the wood or swamp where the wolves are supposed to harbor by day, armed with guns, pitchforks, or clubs. They then separate, surround the swamp, and travel towards the centre, lessening the circle as they proceed, and searching every hollow log and dense clump of bushes or ferns, as they proceed, until at last they dispatch the object of pursuit. But the more ordinary method of capturing wolves is in winter, by means of a steel trap. It has been found, however, that the most successful method of destroying them is, to drug small sausages with strychnine, or nux vomica, and hang them on the boughs of trees, at such a height, that the wolf must leap to obtain them. Under these circumstances, the animal swallows the bait at once, and has not time to find out that it contains any suspicious admixture, which he often does, if the poison be applied to the carcasses of sheep, horses, &c. Another mode of poisoning them is this: The kernels of nux vomica are grated or powdered, then mixed up with three or four times their bulk of fat, or grease, and honey, (wolves are very fond of the latter,) and made into balls about as large as a hen's egg. These are placed in the woods, covered with a piece of flesh or tripe, and some offal is hung on a tree near the spot, to attract the wolves by its scent. The poison once taken, is sure to prove fatal, before the animals can proceed many rods.

#### GREAT MILKING COWS.

**Mr. Sheafe's Herd of Shorthorns.**—It is very important to farmers generally, and especially to those engaged in the dairy, to keep such cows only as are good milkers. It costs no more, and frequently not so much, to support a good milker as a poor one; and the profit on the one, is often double, if not thrice as great as on the other. In Mr. Sheafe's herd, advertised to be sold on the 29th of August next, will be found the desired qualities of deep milking and good butter cows, as well as aptitude to fatten and make good flesh the moment they are dried off

for this purpose. Cream Pot, one of the founders of this herd, gave, in her prime, and in the best of the season, 36 quarts of milk per day, which made at the rate of 18 lbs. 6 oz. of butter per week. Lucilla gave 29 quarts per day, and made 15 lbs. 3 oz. butter per week. Celeste, Venus, Beauty, Phœbe, and Dahlia gave from 25 to 33 quarts of milk per day, and their descendants, now principally forming the herd, are nearly as promising. The heifers and cows, from three years old and up, now give from 15 to 27 quarts of milk per day, in the best of their season. These quantities have not been guessed at, but were made subject to actual measurement in our presence.

Complaint is occasionally made against shorthorn cows, that they run too much to fat, at the expense of their milking qualities. We candidly acknowledge, that, in consequence of some of the English breeders caring more for beef than milk, they have bred for the former rather than for the latter quality. The result is, that those who have purchased and imported without inquiry, have occasionally met with disappointment. They thought, as a matter of course, that they had only to get a shorthorn cow to be sure of a good milker. Wherever shorthorns have been bred with reference to milking qualities, no other breed of cattle has ever equalled them; at the same time, when dried off to fatten, nothing takes on flesh so rapidly as they do; nor is their flesh of so good a quality. We are now speaking of *well-bred* shorthorns, not the coarse grades, which, in such numbers, are called so by the public at large in England and this country.

**CARBONATE OF AMMONIA IN THE ATMOSPHERE.**—Graeger says, that 5,000,000 lbs. of air contain 3 lbs. of carbonate of ammonia. Kemp obtained at the rate of nearly 39 lbs. from the same quantity of air. Fresenius could detect but one half the proportion found by Graeger. The atmosphere yielded, in the experiments of Fresenius, 70 per cent. more ammonia at night than through the day. The proportion of ammonia in the atmosphere is undoubtedly very variable, dependent upon a great variety of circumstances.

If you can create a spirit of emulation, (or at least content,) among your laborers, you will secure much more work, with less trouble to yourself, and really less injury or effort to them. Whenever the mind is at ease, the sufferings of the body are small. Carry an agricultural paper or book to the field, with your lunch, and take a bite from the former to replenish the mind, as you do from the latter to strengthen the body.

**PLANT SOMETHING.**—If you have no garden spot, dig a hole in the pavement and plant a vine or rose bush, or fill a tub or box with earth, and plant it with flowers; or manure it with a sixpence's worth of guano, and raise a dollar's worth of cucumbers or tomatoes.



## Ladies' Department.

### A VIRGINIA HOUSEWIFE.

SOME of our northern readers suppose that all at the south, entitled to the rank of *ladies*, never take upon themselves household cares; that is, none of them are housewives, in the sense which they are quaintly described in Tusser. A housewife

"Who seemeth in labor to equal the pains  
Of husband who striveth to bring in the gains."

and again:

"Though in field good husband it is needful should be,  
Good housewife within is as useful as he."

Just such a one, at least, is one of my Virginia acquaintances. She is a lady in every acceptation of the word—wife of a wealthy gentleman who resides in one of those elegant mansions upon the banks of James River, upon one of the six first-settled estates in the ancient colony of Virginia. Notwithstanding she has numerous servants to do her bidding, yet no matron of a New-England farmhouse is more of a housewife than this lady.

On a recent visit to this most lovely and interesting family, I found the lady in her kitchen, personally superintending the operation of putting up the lard of fifty porkers, for family use—a duty as she assured me, which she had not failed to attend to but once while she had been mistress of that house, and in all the time, never had failed to have sweet lard at all seasons, the great secret of which lies in personal superintendence, to know that it is cleanly rendered and well cooked, and put up, not too hot, in sweet tubs, (oak is the best wood,) or good stone jars, and these put away in a cool place. True, the time has not been a very long one, for she is yet a young, as well as a very handsome housewife; but she has been the mother of *nineteen children*, thirteen of whom are living, and every morning "rise up and call her blessed." Need I add that the children are an honor to such a mother, or that her noble husband "knoweth and esteemeth his treasure," as a good wife always is a treasure to him who deserveth her?

"Now out of this matter this lesson I add,  
Where ten wives are better, ten more are more sad."

And this is not a solitary instance, but a fair sample of the way in which the highly-educated, polished ladies of southern planters "Looketh after the ways of their own household." The exceptions are among those who have been spoiled, (not educated,) in fashionable boarding schools.

SOLON.

**A NICE TEA RUSK—GOOD HOT OR COLD.**—Beat seven eggs, and mix with  $\frac{1}{2}$  pint new milk,  $\frac{1}{2}$  lb. melted butter,  $\frac{1}{2}$  pint of yeast, 3 oz. of sugar, and stir in gradually as much flour as will make a very light paste; set it before the fire to raise half an hour, and then add flour, and form flat loaves or cakes; bake moderately, cool, cut in slices, and brown them in a hot oven, and eat hot or cold. Some use caraway to flavor with.

**POTATO BREAD.**—Take potatoes, boil them until thoroughly done, peel or skin them, and then mash them up as fine as they can be made. Add a sufficient quantity to your yeast and flour, make into dough, and bake. This is not only more economical than the bread made of all flour, as it takes less flour; but it also makes superior bread, and one that continues soft much longer. The sweet potato makes a most delicious bread when thus used, and superior to that made by the common potato. The toast made from this bread is much softer, sweeter, and superior to that from bread made in the ordinary manner. Sweet-potato biscuit are excellent, but not so healthy as bread.—*Ex.*

**NEW PATENTS.**—A patent has lately been taken out for making clothes pins. Think of that washerwomen. Another for a machine to wash dishes. Think of that lazy girls, who fear to soil your hands with the dishcloth. Another for an improvement in sewing machines. Think of that ladies. No patent has yet been granted for spinning street yarn. Think of that gossips. An old bachelor looking over my shoulder says this is a natural attribute of the sex. S. R.

**FISH SAUCE.**—Slice sour apples and tomatoes,  $\frac{1}{2}$  lb. each; salt, sugar, and raisins,  $\frac{1}{2}$  lb. each; ginger and red chillies, 4 oz. each; garlic and shallots, 2 oz. each. Make all fine, and add three quarts of vinegar and one quart lemon juice; agitate it often for a month, and then pour off and bottle. Used hot or cold for fish, meat, stews, &c. The thick part may be used in stews, soups, and chowders.

**FEATHER BEDS** should be aired once a week. Yes, and always in the crater of Vesuvius, or some other fire that would be sure to destroy them, for few things are more unhealthy to sleep on, especially during hot weather. They exhaust instead of invigorate the system.

**AN EXCELLENT RELISH SAUCE.**—Mix 1 oz. each, of ground black pepper and salt;  $\frac{1}{2}$  oz. each of ground pimento, scraped horse radish, and minced shallots, in one pint of walnut, mushroom or tomato catchup; let it stand two weeks, and then strain and bottle for use.

**ICE CREAM.**—Use two pounds of loaf sugar to four quarts of cream. To flavor with vanilla, boil a bean and a half in milk. With lemon, grate three rinds, or add six drops of oil. If the cream is good, it will make seven quarts of ice cream if well beaten. Use two quarts of salt in an eight-quart freezer. R.

**TO MAKE PANCAKES** of broken bread, soak it all night in milk, and break it up fine, and add eggs and flour to give it consistency. It makes excellent cakes. Try it.

**WASHING FLANNEL.**—White flannel can be washed without shrinking, if it is always done in hot water. Use none but good soap.

**BREAD PUDDING** is one of the best that is made, and then it is such a saving of the broken bread.

## Foreign Agricultural News.

By the steamer Cambria, we are in receipt of our foreign journals to 8th of June.

**MARKETS.**—*Ashes*, in limited demand. *Cotton*, as per our last. There is so little change in all other American exports, that we find nothing more worthy of particular remark.

**Death of Gay Lussac.**—M. Gay Lussac, the celebrated chemist, died in Paris, on the 9th of May.

**To Kill Cockroaches.**—Sink in the floor of the room a common basin, partly filled with beer. They will tumble in by hundreds. After persevering nightly for a few weeks, you will reduce the number to nothing; provided you kill with boiling water all that you catch. This should be done every morning.—*Gardeners' Chronicle*.

**Adulterated Guano.**—There are places near London where loam is sifted, and dried till it looks like guano. We could lay our hands upon a gentleman who has found a California on a hill side, so ample is the harvest of gold which he digs up. He is said to have a contract with one house for 30 tons of loam per week, at 20s. a ton—a little revenue of something like a thousand a-year, after paying expenses. A field of loam, assisted by a few such contracts, is, we suspect, a better placer than Sutter's mill itself.

Must we again for the hundredth time, inform the world that guano doctoring is a trade? and a very great one too; that, with the exception of what is procured from the only importers, or from their authorised agents, all guano is falsified? and that a substance, the cost of which, when bought by the cargo, is £9 5s. per ton, cannot be sold for less, except by rogues? Yet it is notorious that "fine, genuine Peruvian guano" is offered all over the country at a much lower price. A few circumstances that have come to our knowledge lately may explain how this is managed.—*Agricultural Gazette*.

**Proposed Analysis of the Potato Plant.**—It would be most interesting to farmers and gardeners, if some scientific persons would make an analysis of potatoes under various circumstances; 1st, when thoroughly ripe and fresh from the soil, after drying two or three days; 2d, after having been allowed to heat in a bury; 3d, when they have sprouted half an inch in the spring, previous to planting; 4th, the same description of potato kept under cover during the winter, and turned frequently, to prevent both growing and heating.—*Ibid*.

**Growing Vegetables on Railway Embankments.**—It has occurred to us, that vegetable marrows, gourds, pumpkins, and even cucumbers, (if really useful,) might be profitably cultivated on railway embankments; in addition to some gain, such plants would produce an agreeable appearance on the embankments, and there can be no doubt that on south aspects, at least, they might be grown in perfection. They should be planted on well-cultivated grounds, about a yard apart, on the summit of the banks, and allowed to grow with their heads downward.—*Ibid*.

**Death of Dr. Corda.**—It is with painful feelings that we announce the untimely death of Dr. Corda, of Prague, who perished at sea on his return from Texas, where he had been residing ten months, during which, he had made many valuable collections and observations that, we fear, are now entirely lost to science. Being a man of very varied talents and by no means a mere botanist, he had been employed by the emperor of Austria to report on the Industrial Exhibition at Paris in 1844, where we had the pleasure of his society for some time; and a high sense of his abilities induced the Prince Colloredo to select him, as a fit person to

conduct a large party of emigrants to New Braunfels, in Texas, where the Prince was about to establish a colony.—*Agricultural Gazette*.

**The American Churn in England.**—The American new churn, patented in England, which was exhibited at the Mansion House, on Easter Monday, was again shown, a few days since, at the Ship Tavern, Waterlane, Tower street, in presence of several gentlemen connected with the butter trade, and Dr. Ryan, of the Polytechnic Institution, when from four quarts of cream and two quarts of London sweet milk, it produced five pounds of butter of excellent quality and flavor. The result elicited unqualified approbation from the gentlemen present.—*Ibid*.

**Sale of Mr. Bates' Shorthorn Cattle.**—This great sale came off on the 9th of May, at Mr. Bates' late residence, Kirklevington, Yorkshire. It is estimated that from 3,000 to 5,000, persons were present, a larger number than were ever before congregated on a similar occasion. The catalogue contained 48 cows and heifers, and 22 bulls, making 70 head in all. The sale went off with spirit, but the prices obtained were not so great as anticipated. The highest was 205 guineas, (\$1,025,) and the average of the whole herd, was 63 guineas (\$315). We shall give full particulars in our next. Here is another evidence of the estimation, in Great Britain, of the shorthorn breed of cattle. If we could get half these prices in the United States, we should feel better satisfied; and yet, they would hardly pay a choice breeder for the time, talents, and capital, necessary to be devoted to the business.

**To Destroy Ants.**—Various plans have been already proposed for the destruction of these insects. Rags, well saturated with turpentine thrust into the crevices where they abound, will certainly destroy them, as also will oil, if it come in contact with their bodies. Dr. Bostock found lime very servicable in expelling them, and water, in which the outer green skins of walnuts have been soaked, has been used with success; salt has also been stated to be objectionable to them. One of the simplest and most effectual remedies is to lay wide-mouthed bottles in their tracks, or near the mouths of their burrows, placing bits of raw meat within. The ants will greedily attack the latter, and may be destroyed from time to time by shaking the bottle over hot water.—*Dr. Westwood*.

**The Stanwick Nectarine.**—The original tree of this variety is in the possession of the Duke of Northumberland, at whose seat, at Stanwick, it has borne fruit for several years, and from which it derives its name. The duke received it from the late Mr. Barker of Suedia, in Syria, a gentleman whose attention has long been turned to the acquisition of the finest fruit trees of the East, in the hope that they might be valuable in his native country.

In excellence, the Stanwick nectarine is as far beyond all other nectarines as a green-gage plum is beyond all other plums. Beyond this, praise cannot reach. It may, nevertheless, be as well to repeat on the present occasion, what we stated some time since, when the high quality of this nectarine had first become perfectly ascertained.

"The nectarine forming the subject of this notice is about the size of an Elruge, and like it in shape, except in being less heart-shaped at the base. Its skin is pale, like that of the white nectarine, where shaded, with a violet tinge next the sun. The flesh is white, exceedingly tender, juicy, rich, and sugary, without the slightest trace of the flavor of prussic acid. The stone is middle-sized, ovate, with rather a prominent sharp edge, very rugged, and of a chocolate color. The kernel is sweet, like a nut, possessing nothing of the bitter-almond flavor.—*Gardeners' Chronicle*.



## Editors' Table.

**TO SOUTHERN SUBSCRIBERS.**—It has been discovered that one of the letters of Solon Robinson, containing the names of subscribers, miscarried. We believe papers to all have now been sent; if not, we will forward them at once on being informed. Money paid to Mr. Robinson, on account of the *Agriculturist*, at any time, will be credited by the publishers.

**GREAT SALE OF SHORTHORN CATTLE.**—We desire to call particular attention to the sale of the valuable herd which is to take place, without reserve, on the 29th of August next. Some account will be found of the great milking qualities of the cows, on p. 226 of the present number. The bull Exeter, used in the herd this season, was imported last year. He is of the Princess tribe of shorthorns, the *only* bull of this tribe ever brought to America. The breeding of this tribe of cattle can be traced back upwards of 250 years. We think Exeter one of the best bulls ever brought to the United States.

**GIVING CREDIT.**—In looking over our late exchanges, we have had our faith in editorial honesty sadly shocked at seeing how unblushingly our articles are copied, without credit. But, occasionally we meet with an item like the following, from the "Germantown Telegraph" which is one of the best family papers upon our exchange list:—

"We last week inserted a communication from our able and attentive correspondent, 'A Practical Farmer,' on the subject of curing hay, but as the subject is an important one, we annex the following article from the *American Agriculturist*, a publication which is ever intelligent and practical upon all matters connected with the interests of the farmer." Now this is something like credit, honestly intended and fairly given. We intend to maintain the reputation accorded to us by continuing to give our readers articles both intelligent and practical.

**POSTAGE ON THE AGRICULTURIST.**—We occasionally hear of some mistaken mortal charging *pamphlet postage* on this paper; and as we intend sending it out with a loose cover, or wrapper, containing advertisements, we deem it necessary to call the attention of post masters, to the post-office law, defining what is a newspaper, namely: *A publication issued as often as once a month, on not more than two sheets of paper, whose superficial area, united, does not exceed 1,900 square inches, and giving intelligence of passing events;* and this is precisely what the *Agriculturist* is, and is only subject to newspaper postage. The form in which it is folded has nothing to do with postage, unless stitched and cut, and then it would be a pamphlet. As it is sent through the mail, it is a newspaper, and has been so decided by the Post-Master General.

**ELEMENTS OF SCIENTIFIC AGRICULTURE**, or the connection between science and the art of practical farming, by Professor John P. Norton, of Yale College. Albany, Erastus H. Pease & Co. This is a plain, practical treatise on a most important subject. The farmer will not be misled by any specious or half-developed theory in the above work; but he will find a brief and reliable exposition of some of the most important principles in his occupation. We cordially commend it to general perusal.

**PICTORIAL FIELD BOOK OF THE REVOLUTION**, by B. J. Lossing. Harper & Brothers. We have received the first two numbers of the above, which are beautifully illustrated by numerous wood engravings, mostly original, and all appropriate to the work. The author takes us over the various camp grounds of the revolution, and makes us familiar with many of its most in-

teresting scenes and incidents. We especially commend this book to the young, not only for the agreeable information which it imparts, but for the enthusiastic patriotism and love of American character it is likely to foster.

**EXHIBITION OF THE MASSACHUSETTS CHARITABLE ASSOCIATION**, for the Encouragement of Manufactures and the Mechanic Arts.—The sixth exhibition of this institution will be opened at Faneuil and Quincy Halls, in the city of Boston, on Wednesday, September 11th, 1850. To enable the managers to make such arrangements of the goods as will be satisfactory to the contributors, it will be necessary that all articles intended for exhibition be entered by Saturday, the 7th of September. An invitation has been extended to the President of the United States to visit the exhibition, that he may have an opportunity of witnessing the extent and perfection to which manufactures and the arts have reached in this country.

**THE CULTURE OF RICE.**—Rice was first planted in South Carolina about the year 1688. In 1725, some 1,700 casks were exported. In 1801, the export had increased to 64,789 casks; and, in 1848, the amount sent from Charleston was 116,023 tierces of 600 bushels each, or 96,612,800 lbs.

**MICHIGAN WOOL.**—The Detroit Tribune thinks that the surplus of wool to be shipped from Michigan this season, will be 1,700,000 lbs.

**ALABAMA CASTOR OIL.**—The Mobile Tribune says: "Six barrels of castor oil, from the plantation of Robert Dickens, Perry county, were received on Tuesday, and sold at \$2 per gallon. The quality of this oil is superior to any brought to this market. E. R. Carlisle has already sold, this season, for Mr. Dickens, some fifty barrels of castor oil, at prices ranging from \$2 to \$2.50 per gallon. The complete success of Mr. Dickens, in this new branch of industry will probably induce others to embark in it."

**GROWING PEPPERMINT.**—One town in Michigan had 960 acres in cultivation last year, which gave \$16,775 worth of oil.

**ROSACEOUS PLANTS COMPARATIVELY OF RECENT ORIGIN.**—Professor Agassiz, in a lecture upon the trees of America, stated a remarkable fact in regard to the family of the rose, which includes among its varieties not only many of the most beautiful flowers which are known, but also the richest fruits, such as the apple, pear, peach, plum, apricot, cherry, strawberry, blackberry, raspberry, etc.; namely, that no fossil plants of this order have ever been discovered by geologists. This he regards as conclusive evidence, that the introduction of this family of plants upon the earth was coeval with, or subsequent to, the creation of man, to whose comfort and happiness they seem especially designated by a wise Providence to contribute.

**THE HEN FEVER.**—Few are aware of the extent to which the hen fever is now raging among our amateur farmers. The California fever sinks into insignificance when compared with this. Choice hens are now imported for breed. A few days since, an invoice of thirty-five pure Dorkings, came in the Robert C. Winthrop, from Liverpool. The merits of the Guilderland, the Dorking and the Cochins are daily discussed in the railroad cars, and at our fashionable hotels. One young gentleman farmer in our vicinity has gone into the fowl business in good earnest, and reduced it to a perfect system. Eggs are taken in to hatch for so much a head; the name of the owner of the eggs and the date of their being laid, are written upon the outside. Hens are let to those who have eggs of a choice kind, but who have no hens to hatch them. \$3 and even \$4 per dozen is by no means an uncommon price for eggs of a choice kind.—*Boston Traveller.*

## Review of the Market.

PRICES CURRENT IN NEW YORK, JUNE 22, 1850.

ASHES, Pot,.....	100 lbs.	\$5.50	@	\$5.56
Pearl,.....	do.	5.62	"	5.69
BALE ROPE,.....	lb.	9	"	11
BARK, Quercitron,.....	ton.	39.00	"	41.00
BEANS, White,.....	bushel.	75	"	1.25
BEESEWAX, American, Yellow,.....	lb.	20	"	26
BOLT ROPE,.....	"	10	"	11
BONES, Ground,.....	bushel.	45	"	55
BRISTLES, American,.....	lb.	25	"	65
BUTTER, Table,.....	"	15	"	25
Shipping,.....	"	9	"	15
CANDLES, Mould, Tallow,.....	"	10	"	13
Sperm,.....	"	25	"	47
Stearine,.....	"	25	"	30
CHEESE,.....	"	5	"	10
COAL, Anthracite,.....	2,000 lbs.	5.00	"	6.00
CORDAGE, American,.....	lb.	11	"	13
COTTON,.....	"	10	"	15
COTTON BAGGING, Am. hemp,.....	yard.	15	"	16
FEATHERS,.....	lb.	30	"	40
FLAX, American,.....	"	8	"	9
FLOUR, Ordinary,.....	bb.	4.37	"	5.75
Fancy,.....	"	6.00	"	6.50
Richmond City Mills,.....	"	6.50	"	6.75
Buckwheat,.....	"	—	"	—
Rye,.....	"	2.75	"	3.00
GRAIN—Wheat, Western,.....	bushel.	1.00	"	1.50
Red and Mixed,.....	"	90	"	1.15
Rye,.....	"	61	"	62
Corn, Northern,.....	"	62	"	65
Southern,.....	"	59	"	63
Barley,.....	"	60	"	65
Oats,.....	"	42	"	50
GUANO, Peruvian,.....	2,000 lbs.	45.00	"	50.00
Patagonian,.....	"	34.00	"	35.00
HAY, in Bales,.....	100 lbs.	50	"	63
HEMP, Russia, Clean,.....	ton.	210.00	"	215.00
American, Water-rotted,.....	"	160.00	"	200.00
Dew-rotted,.....	"	140.00	"	175.00
HIDES, Southern, Dry,.....	"	9	"	10 1/2
HOPS,.....	lb.	6	"	18
HORNS,.....	100.	2.00	"	10.00
LEAD, Pig,.....	100 lbs.	4.50	"	5.00
Pipes for Pumps, &c.,.....	lb.	5	"	7
MEAL, Corn,.....	bb.	2.75	"	3.25
MOLASSES, New-Orleans,.....	gallon.	22	"	26
MUSTARD, American,.....	lb.	7	"	10
NAVAL STORES—Tar,.....	bb.	1.50	"	1.75
Pitch,.....	"	1.25	"	1.75
Rosin,.....	"	1.00	"	1.20
Turpentine,.....	"	2.44	"	2.75
Spirits of Turpentine,.....	gallon.	30	"	33
OIL, Linseed, American,.....	"	70	"	75
Castor,.....	"	1.50	"	1.63
Lard,.....	"	58	"	65
OIL CAKE,.....	100 lbs.	1.25	"	1.50
PEAS, Field,.....	bushel.	75	"	1.25
Black-eyed,.....	"	1.75	"	2.00
PLASTER OF PARIS,.....	ton.	2.00	"	2.75
Ground, in Barrels of 300 lbs.,.....	"	1.12	"	1.25
PROVISIONS—Beef, Mess,.....	bb.	8.50	"	11.00
Prime,.....	"	5.25	"	8.00
Smoked,.....	lb.	6	"	12
Rounds, in Pickle,.....	"	4	"	6
Pork, Mess,.....	bb.	10.00	"	12.00
Prime,.....	"	6.50	"	10.00
Lard,.....	lb.	6	"	7
Bacon Sides, Smoked,.....	"	3	"	4 1/2
In Pickle,.....	"	3	"	4
Hams, Smoked,.....	"	5	"	9
Pickled,.....	"	4	"	7
Shoulders, Smoked,.....	"	4	"	6
Pickled,.....	"	3	"	5
RICE,.....	100 lbs.	2.25	"	3.75
SALT,.....	sack.	95	"	2.00
Common,.....	bushel.	20	"	35
SEEDS—Clover,.....	lb.	6	"	9
Timothy,.....	bushel.	2.00	"	3.50
Flax, Clean,.....	"	1.60	"	1.65
SODA, Ash, (80 per cent. soda),.....	lb.	3	"	—
Sulphate Soda, Ground,.....	"	1	"	—
SUGAR, New-Orleans,.....	"	4	"	6
SUMACH, American,.....	ton.	35.00	"	37.00
TALLOW,.....	lb.	6	"	7
TOBACCO,.....	"	3	"	11
Eastern, Seed-leaf,.....	"	15	"	20
Florida Wrappers,.....	"	15	"	60
WHISKEY, American,.....	gallon.	23	"	25
WOOLS, Saxony,.....	lb.	40	"	60
Merino,.....	"	35	"	40
Grade Merino,.....	"	30	"	35
Common,.....	"	20	"	30

## NEW-YORK CATTLE MARKET.

At Market.—1,800 Beaves, (all southern,) 150 Cows and Calves, 5,750 Sheep and Lambs.

Beef Cattle.—Quite dull, with sales at a decline from our last figures, \$6 to \$8 having been the range of prices the past week; 40 head were shipped for Bermuda, 120 driven to Boston, and 500 remain unsold.

Cows and Calves.—The market has been steady, without notable change in demand or prices. Our quotations are \$22.50 to \$45; unsold, 10.

Sheep and Lambs.—Sales for the past week have not been so brisk, and prices have not been fully supported. Lambs have brought \$1.75 to \$3.75; sheep, \$2 to \$5; left over, 300. June 24.

REMARKS.—A good business in produce has been done the past month, but with very little variation of price, since our last.

The Weather could not have been better for the growing crops. Corn is now coming on finely, and the prospect north of 41°, is fair, and south of 40°, it is very promising. Wheat looks well, generally, and in Michigan and elsewhere, we are informed the prospect is much better than was anticipated last month. The fear, then, in the northwest sections was, that there would not be over one fourth the usual crop. Other grain is coming in well. As for grass, the growth is unusually abundant; and root crops, though late, look strong. Cotton will be a decidedly short crop—all other southern products promise a good average.

TO CORRESPONDENTS.—Communications have been received from E. H. Brown, E. S., A Farmer, R. L. Colt, John Wilson, C., Linus Cone, A Subscriber, T. S. Gold, A Citizen of the United States.

ACKNOWLEDGMENTS.—We have received from Alexandre Vattermare, of Paris, the following interesting works on Agriculture:—Cours d'Agriculture, par Le Cte. de Gasparin. Paris, 1846, 3 vols.; Colonisation et Agriculture de l'Algérie, par M. L. Moll. Paris, 1845, 2 vols.; Agriculture française, par MM. Les Inspecteurs de l'Agriculture, publié d'après les ordres de M. le Ministre d'Agriculture et du Commerce. Paris, 1845, 7 vols.; Maison Rustique du XIXe. Siècle, par MM. Ysabeau et Bixio. Paris, 1849, 5 vols.; De La Fabrication du Fromage gras dit Stracchino de Gorgonzola, Mémoire traduit de l'ouvrage italien de Louis Cattaneo. Paris, 1 vol.; Traité complet de l'élève du Cheval en Bretagne, Statistique Hippique de la Circoscription du Dépôt d'Etalons de Langonnet, par Ephrem Houël. Paris, 1842, 1 vol.; Traité Élémentaire de l'Agriculture du Département de la Seine, par Edouard Lecouteux. Paris, 1840, 1 vol.; Premiers Éléments d'Agriculture, par L. Bentz. Paris, 1845, 1 vol.; Manuel Élémentaire du Cultivateur alsacien, Par J. L. Stoltz. Strasbourg, 1842, 1 vol., in French and German; Préservatif d'Agromanie Empirique ou Lettres Agricoles, par M. Le Mis. de Travane, Première Partie. Paris, 1845, 1 vol.; Notes Economiques sur l'Administration des Richesses et la Statistique Agricole de la France, par C. E. Royer. Paris, 1843, 1 vol.; Manuel d'Agriculture à l'usage des Cultivateurs et des Ecoles primaires du Nord de la France, par V. Rendu. Paris, 1838, 1 vol.; L'Agriculture Raisonnée ou Manuel Complet et Spécial du Cultivateur, par l'Abbé Picard. Niort, 1844, 1 vol.; Manuel d'Agriculture, ou Traité Élémentaire de l'Art du Cultivateur, par L. Moll. Nancy, 1841, 1 vol.; Ampélographie ou Traité des Cépages les plus estimés dans tous les Vignobles de quelque renom, par Le Comte Odart. Paris, 1845, 1 vol.; Agriculture de Partie du Poitou, par M. Sauzeau (Alex.). Niort. 1844, 1 vol.; Des Irrigations suivant la Loi du 16 Sept. 1807, par Alphonse de P. \* \* \* Paris, 1844, 1 vol. Received, also, from other sources, Annual Report of the Central Board of Agriculture, at Halifax, Nova Scotia, for the year 1849; Address, Delivered Before the Greensboro', Alabama, Agricultural Society, in May last, by Isaac Croom, Esq.

**PATENT WIRE RAILING**, of every variety of Style and Design, from 1/4 in. to 1/2 in. diameter, for Enclosures Farms, Public Grounds, Cemeteries, Cottages, and Gardens, Window Shutters, and Grounds for Private Dwellings, Lunatic Asylums, Prisons, Summer Houses, Arbors, Arches, and Verandahs, Gratings for Sky Lights, Guards for Steamboats, &c. Manufactured by T. Lyman & Co., 4 Albany Block, Boston, and G. W. Phipps & Co., Grove Street, New Haven, Ct., sole patentees for the New-England States. For further particulars, address, post paid, A. B. ALLEN & Co., 189 and 191 Water st. N. Y.

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One of the finest trout streams of the island runs through this land, and in the north parts of the tract, is the famous Ronkonkoma Pond, or Lake, one of the most beautiful sheets of water that can be found anywhere, of about three miles in circuit, the shores and banks of which are pleasant and picturesque in a high degree.

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The *Overshot Threshers* consist of a small-spiked cylinder with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motions of the horse and machine by means of a brake, by which accidents are avoided. 2. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c., drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain but throws it within three feet of the machine. 4. This arrangement also admits of attaching a separator high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of wheat or rye per day; and four men with a double power, twice that quantity. All the above are compact and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

Price of single Power,	\$80
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“ Bands for driving, etc.,	\$5
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### GREAT SALE OF SHORTHORN CATTLE.

The subscriber will offer for sale, without reserve, at public auction, on Thursday, the 29th day of August next, at 1 o'clock, P. M., on the farm of J. F. Sheafe, Esq., at New Hamburg, Dutchess Co., New York, about 35 head of Shorthorn cattle, including cows, heifers, and calves.

This herd was mostly bred by Mr. Sheafe, and I do not hesitate to say, that I think it *one of the very best* in the United States; and I have seen and particularly examined nearly all of them. Great attention was paid in the commencement of this herd, to the milking properties of the animals forming it; and this, together with fine points and good growth and constitution, have been steadily kept in view in its breeding. There is but one cow in the herd which gives less than 20 quarts per day, in the best of the milking season, while one has given over 29 quarts per day and made 15 lbs. 3 oz. of butter per week, and two others have given respectively, 31 and 36 quarts per day. Their color is of the most fashionable and desirable kind—red, red and white, and a rich strawberry roan—only one white cow in the lot. They are of good size and fine style, and all in calf to the superb imported bull Exeter, which will also be offered for sale at the same time.

*Pedigree of Exeter.*—Exeter is of the Princess tribe of Shorthorns—was calved in June 1848, and bred by Mr. John Stephenson, of Wolviston, Durham, England. He was got by Napier, (6,238,)—out of Jessamine, by Commodore (3,452)—Flora, by Belvedere, (1,706)—Jessey, by Belvedere, (1,706,)—Cherry by Waterloo, (2,816,) &c. See English Herd Book, Vol. V., for full pedigree.

Exeter was selected for Mr. Sheafe, by a first-rate Judge of shorthorn stock, and was considered one of the *very best bulls* in England. Quite a high price was paid for him; and it is believed that his superior, if even his equal, has never before been imported into this country. He carries an enormous brisket for his age, and his style, handling, and quality are of the finest kind. His color is mostly a beautiful yellow-red, which is a bright-red with a fine golden or saffron undertinge, arising from a rich yellow skin. He is the *only bull of this peculiarly desirable red*, ever imported into America. Calves got by him, out of this herd of cows will fetch a high price the moment they are dropped.

Mr. Stephenson, the breeder of Exeter, now stands at the head of his class in England, and his stock is of the highest repute. It is entirely of the Princess tribe, and traces its pedigrees without any alloy or Galloway blood, back to pure shorthorns, for upwards of two hundred years; a matter of no small consideration to those who wish a superior fresh cross.

Catalogues of the above stock, with pedigrees in full, are now ready for distribution.

*Southdown Sheep.*—A choice flock of this superior breed of mutton sheep will be sold on the same day as above.

*Suffolk Swine.*—One boar and several breeding sows and pigs, of this fine breed of swine.

*Working Oxen.*—A handsome pair of red working oxen.

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